

The BIG VALUE

INSIDE - £1,000 WORTH OF HORNBY TRAINS TO WIN

BRITISH RAILWAY MODELLING **ANNUAL 2007**

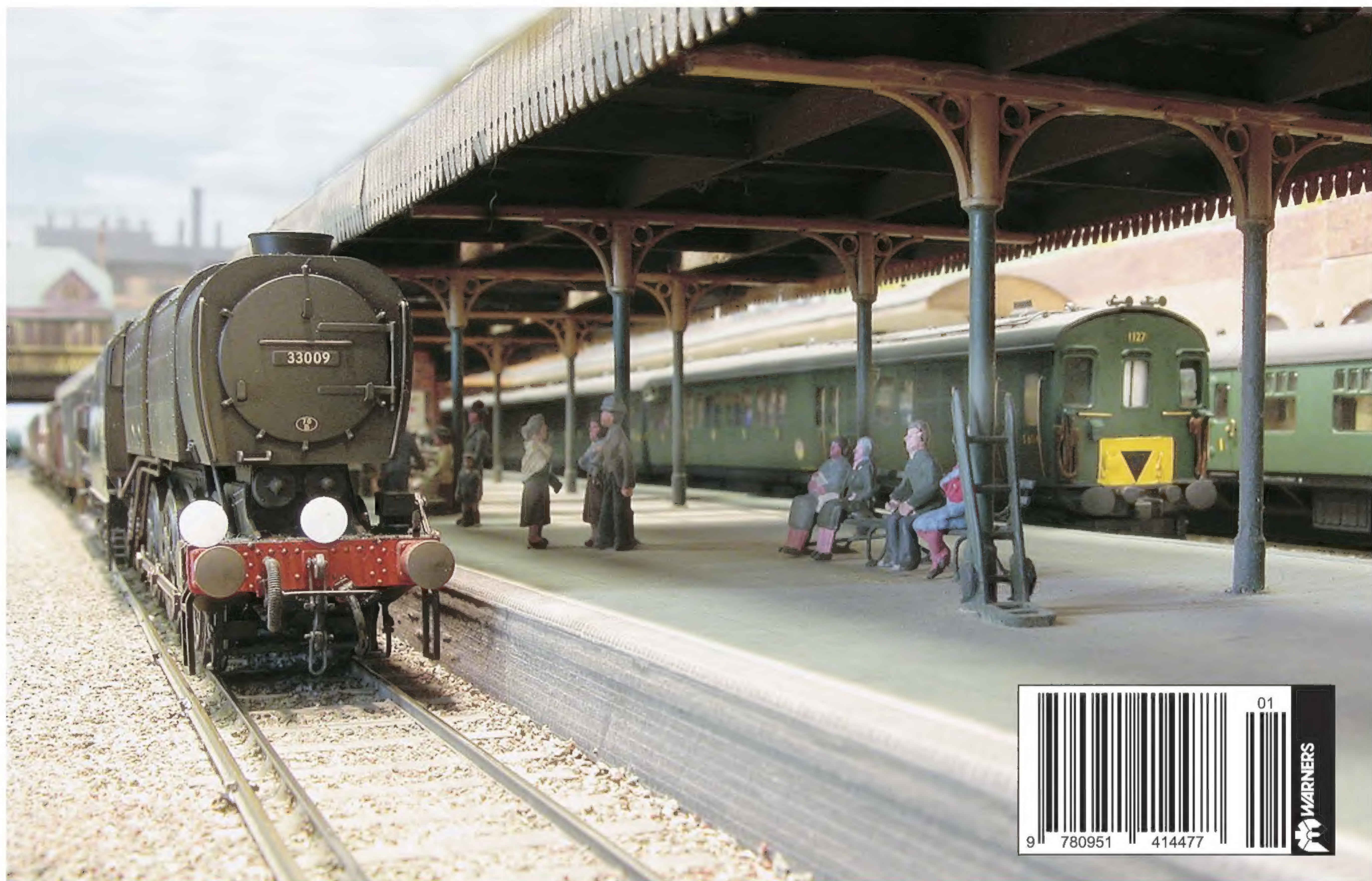
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EWS wagon survey

Minic narrow gauge



- 'Merchant Navy' kit-build
- The Dean 'Single' story
- A Lineside Look
- Up the bank - Dainton in O gauge
- Classic BRM - Letter from 'Thomas'
- Steam Pictorial
- Newcastle by the Water - Modern Image N gauge



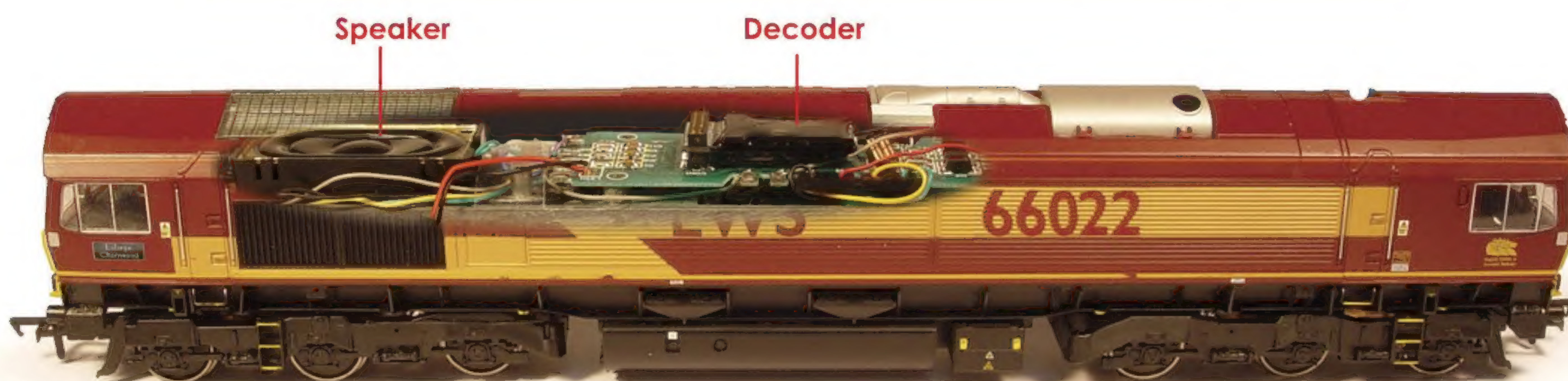
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32-040DS

Class 20 Diesel D8113 BR green with Indicator discs/Tablet catcher fittings



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All products are designated an Epoch symbol using the Bachmann Product Period Key, as seen on our website.
Epoch 5 signifies locomotives suitable for period between 1957 - 1966. Epoch 9 signifies locomotives suitable for period 1995 onwards Post Privatisation

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HO

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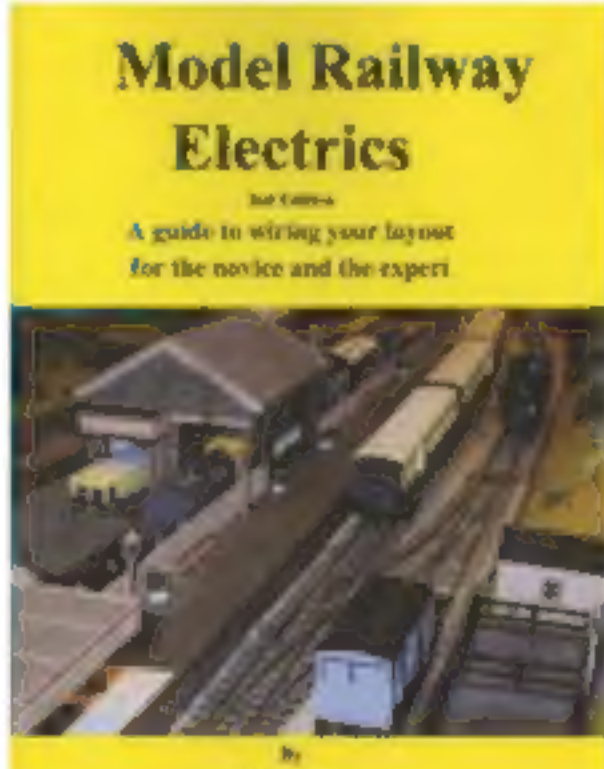
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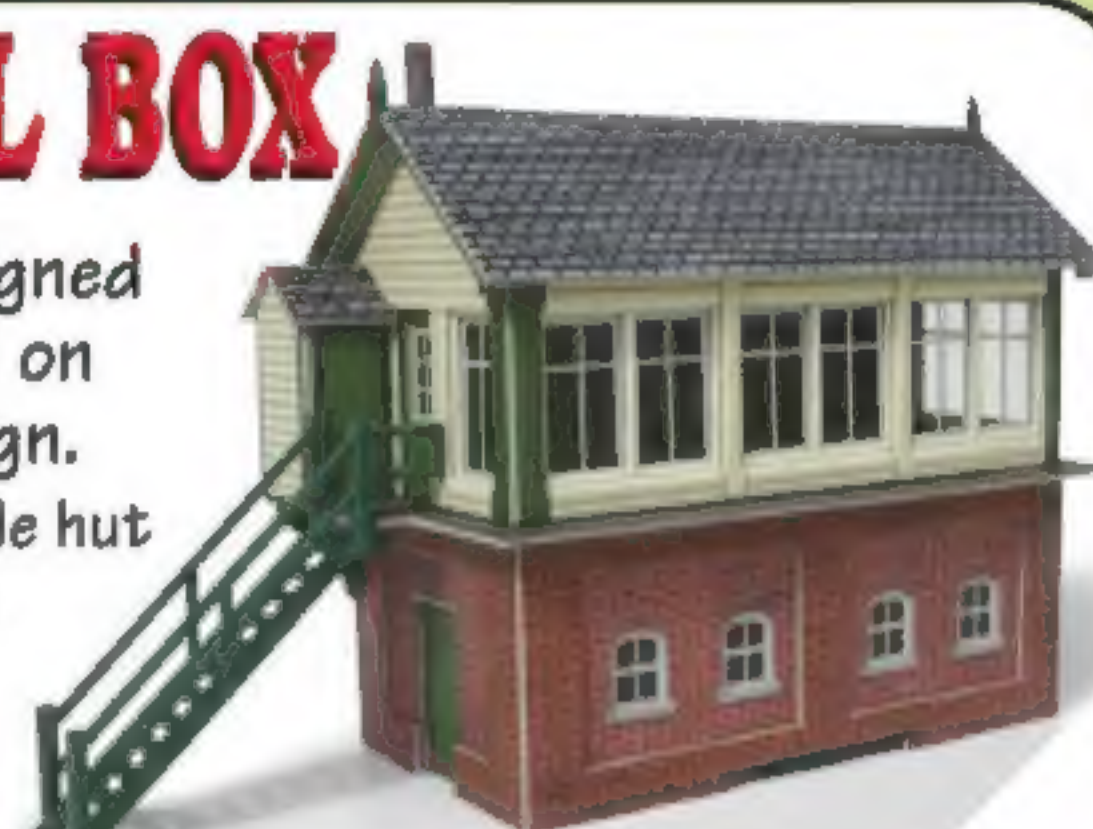
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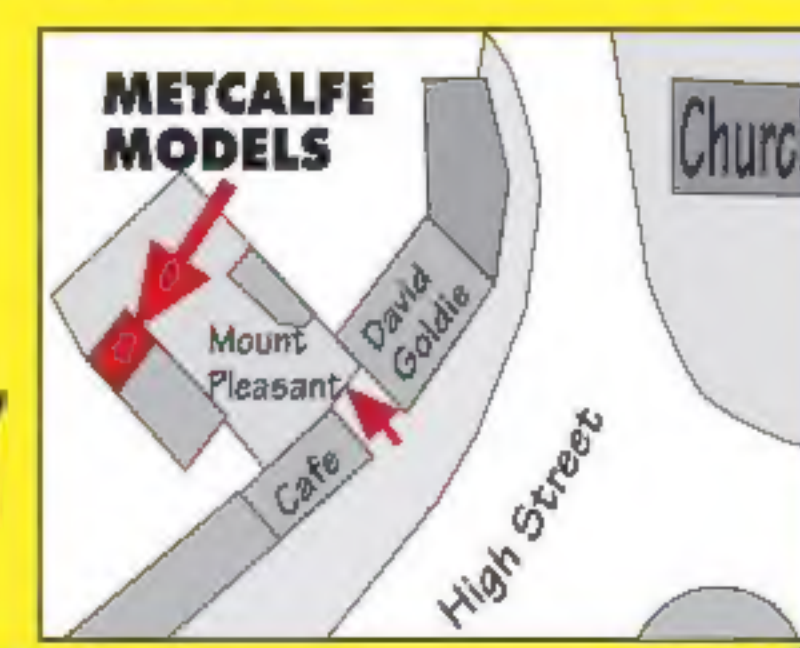
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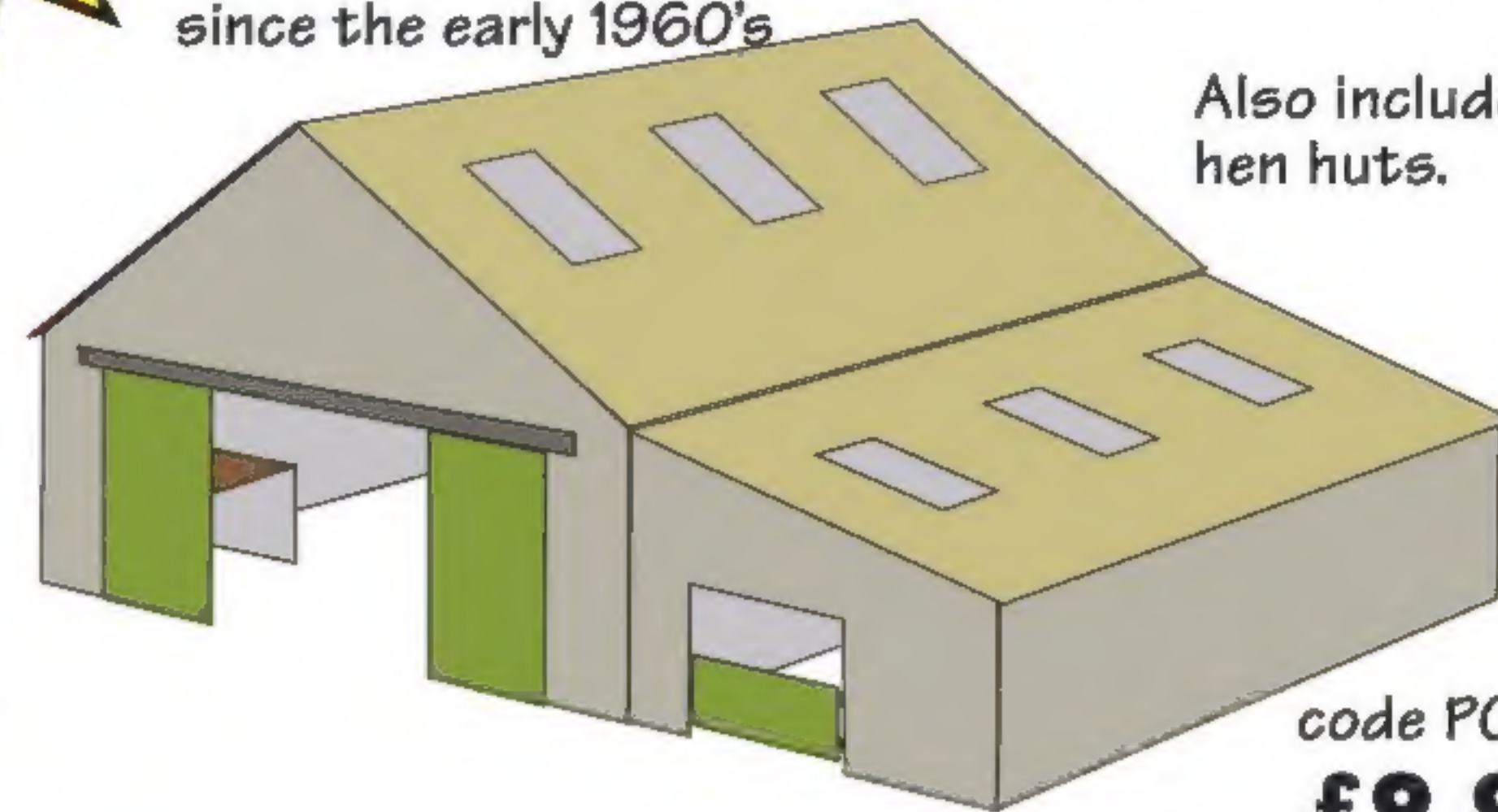
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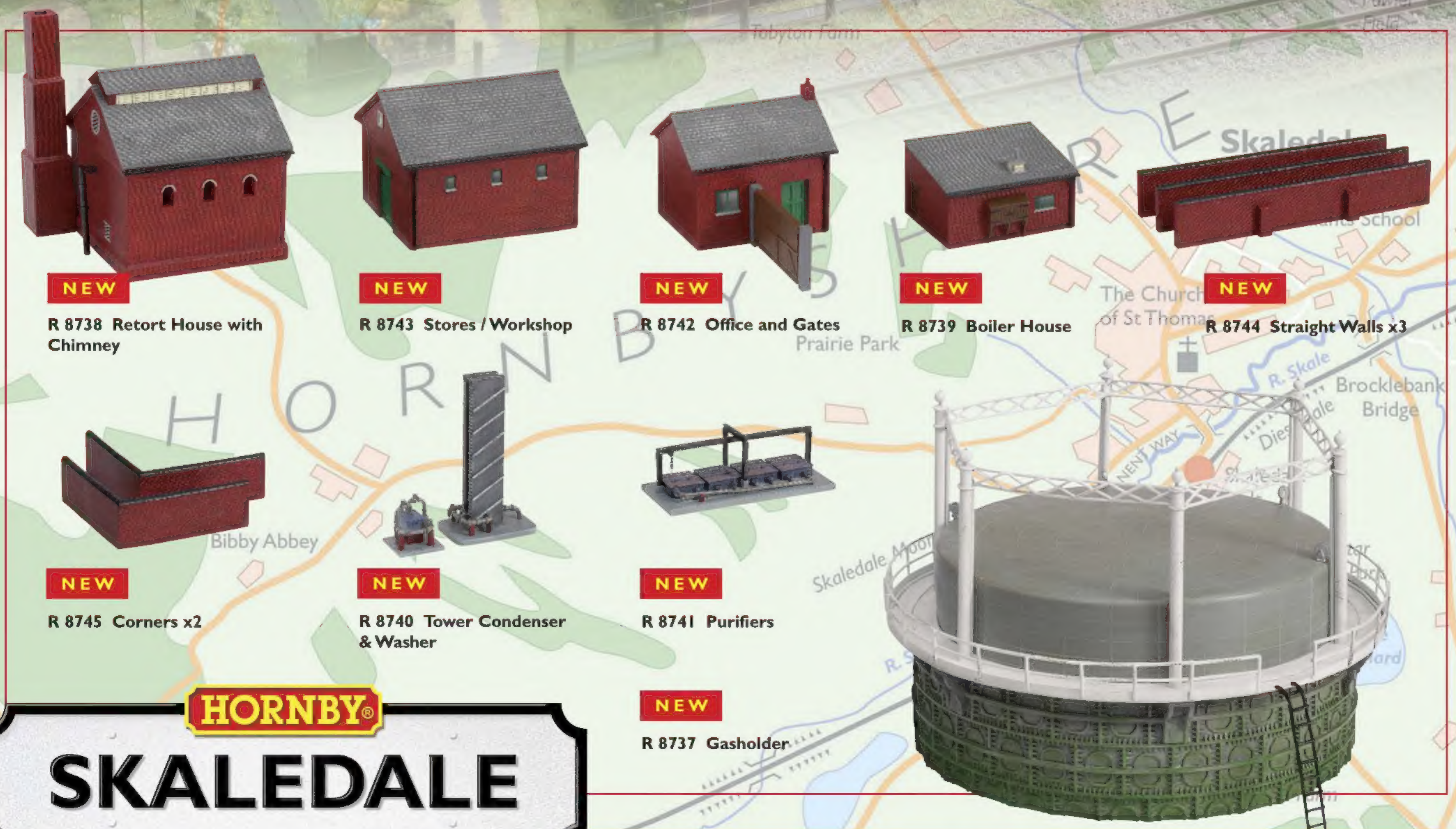
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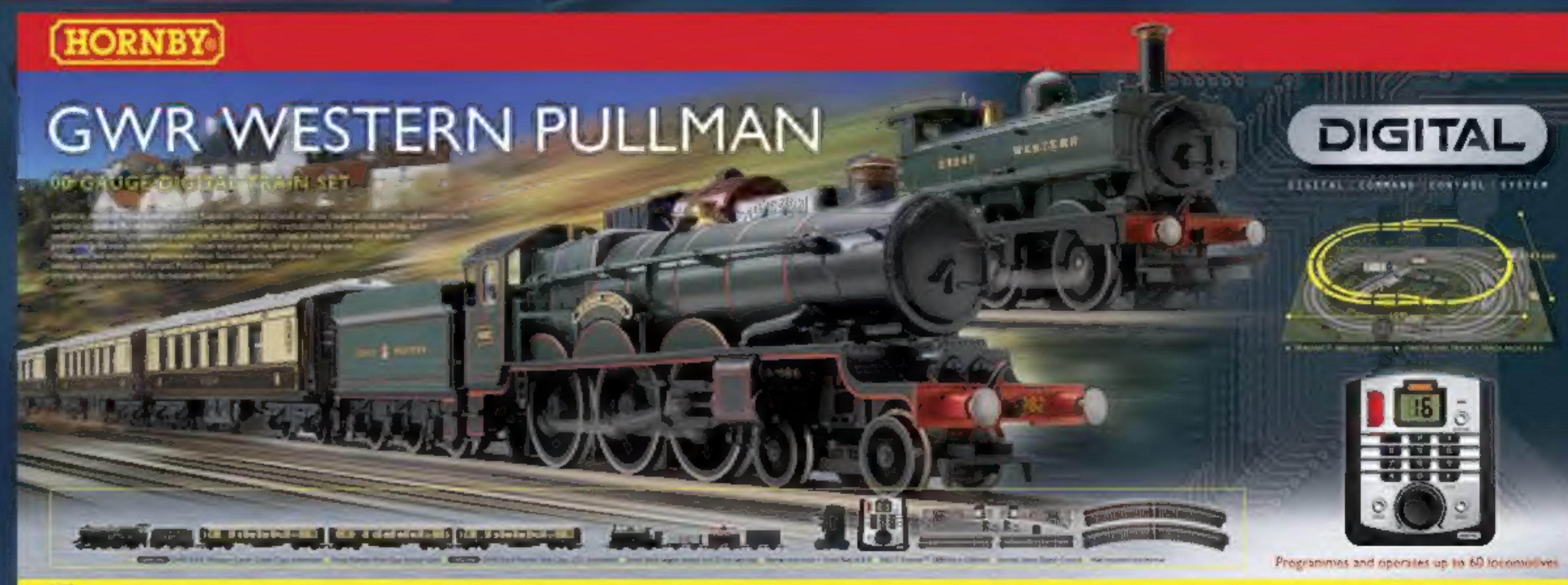
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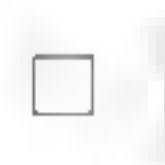
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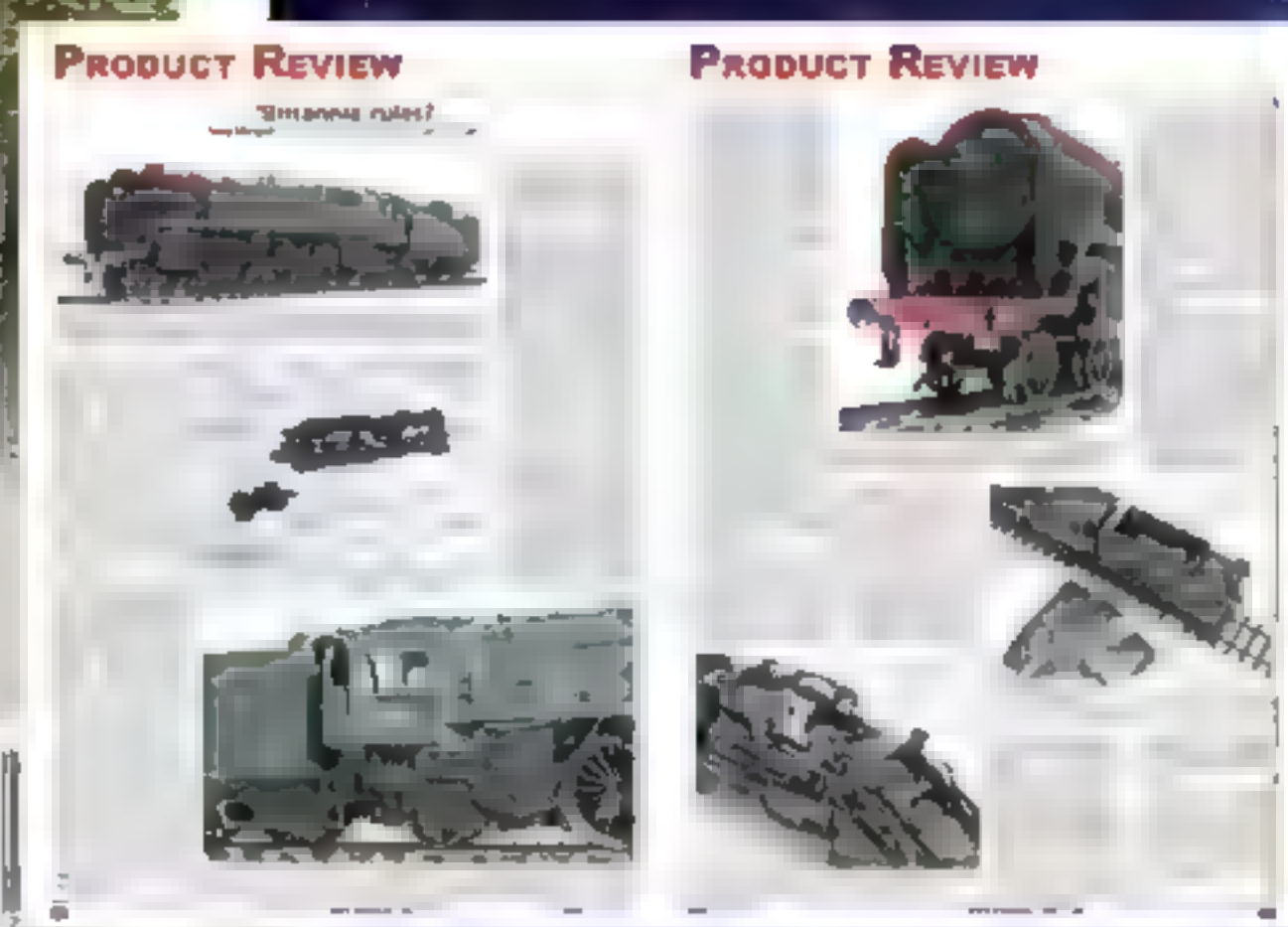
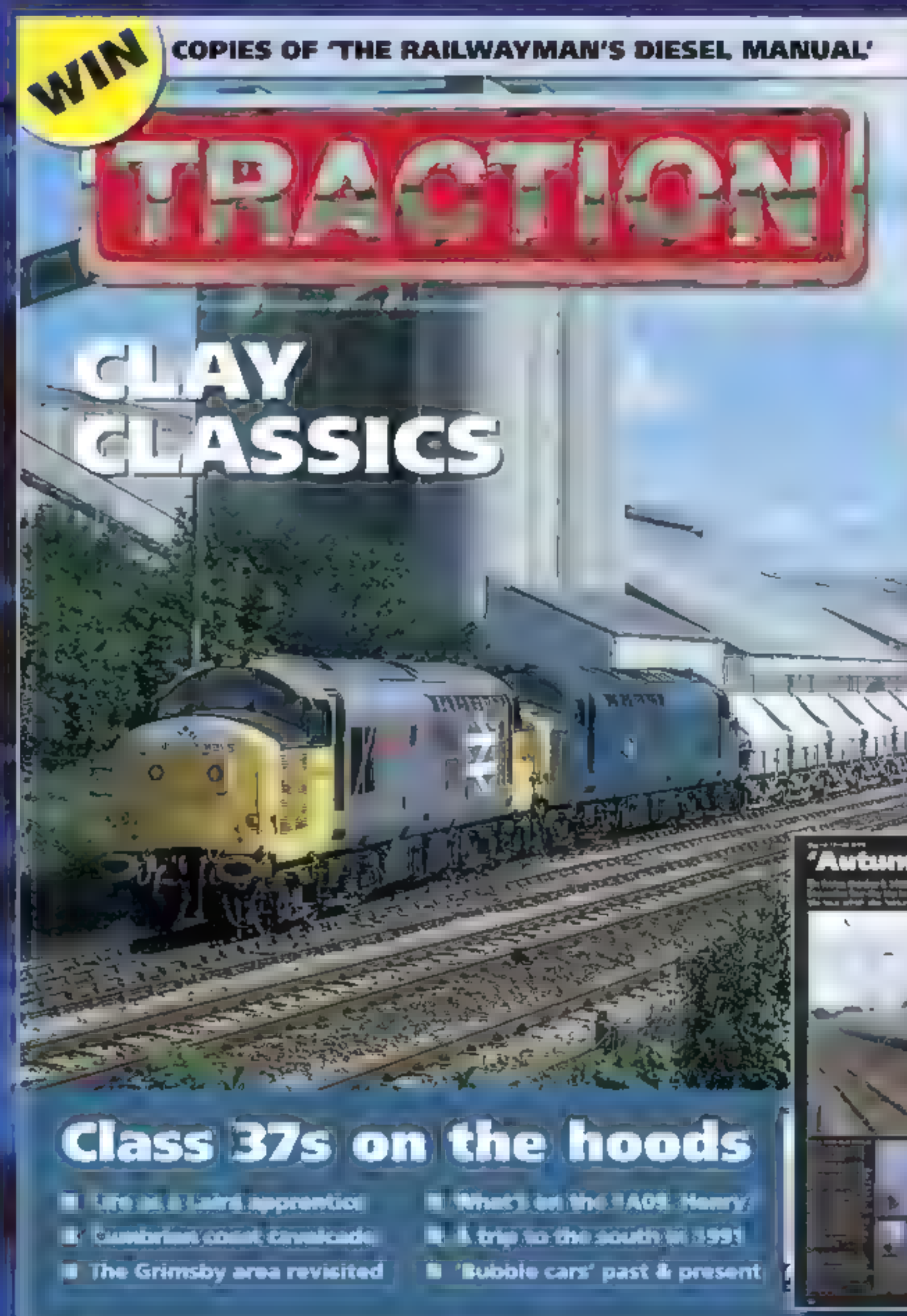
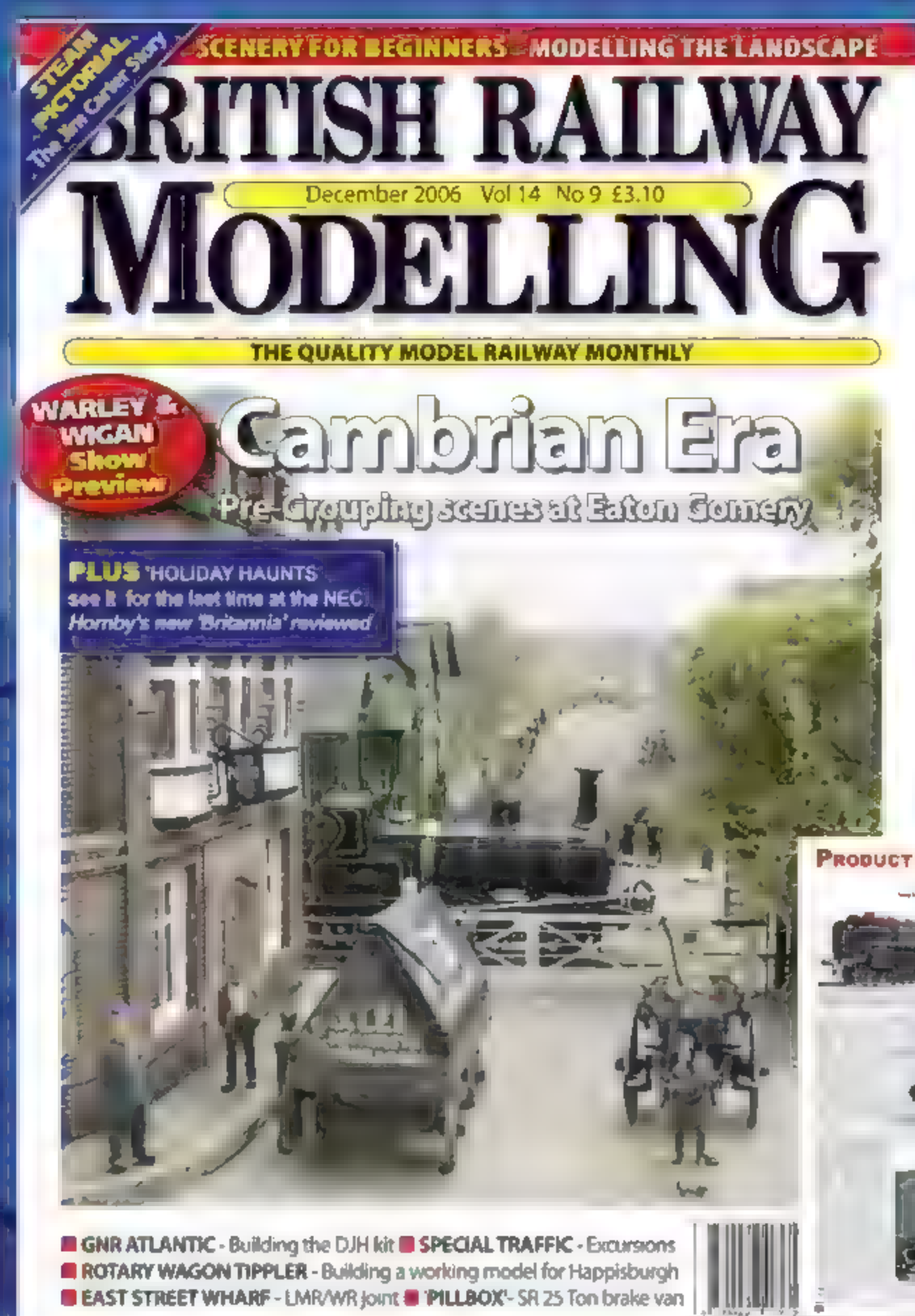


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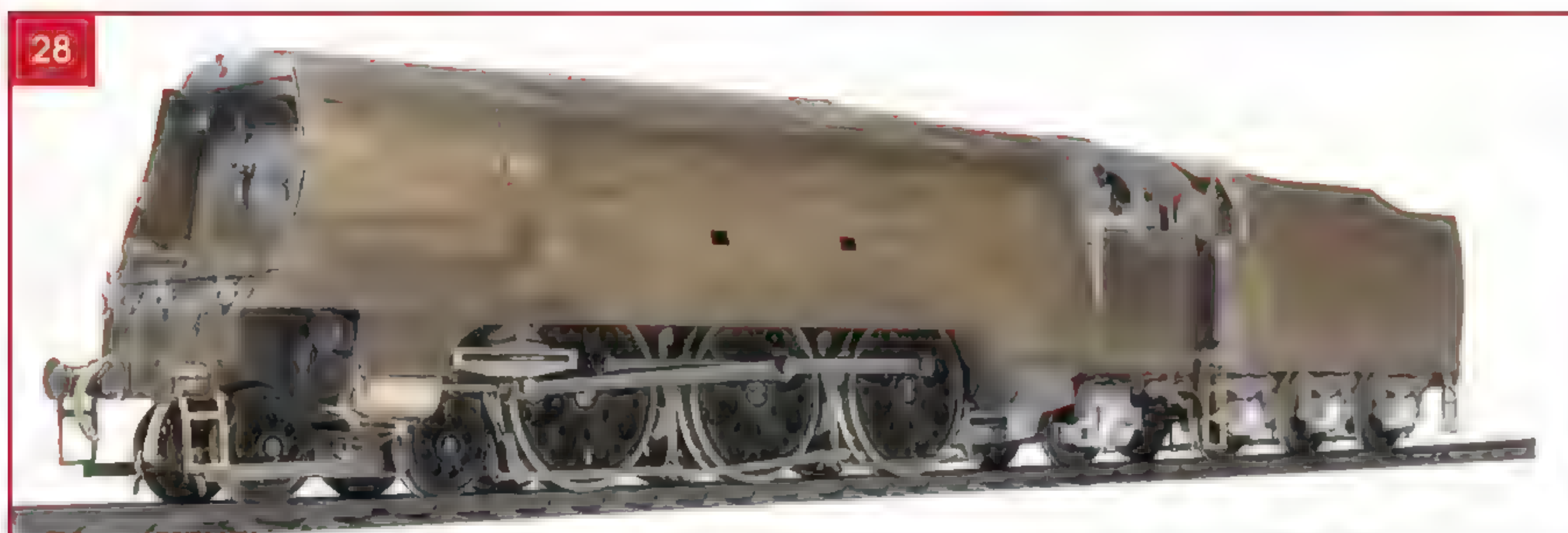
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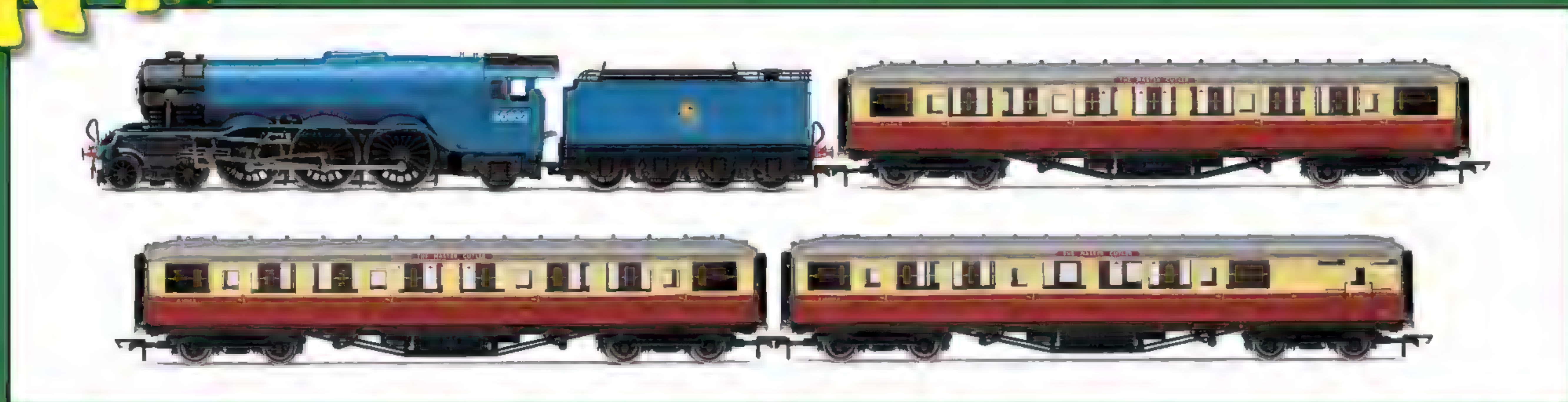
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Introduction

Welcome to our new BRM annual



Welcome to our second *BRM Annual*, another bumper package for you to read and digest over the festive period and throughout the new year. The resounding success of our first annual completely took us by surprise and it sold out in next to no time. So if you see one on ebay, I would make a bid for it immediately! For our second annual - with a bigger print run! - we have a fascinating mix of in-depth articles and features, together with many of our regular favourites including 'Layout Focus' and 'Classic BRM'.

There is definitely a nostalgic bias towards many of the features in this year's annual. Do you remember the Tri-ang Minic narrow gauge railway of the early 1960s? Michael C Shaw looks back at this forgotten range while Robert E Vickery explains his restoration project. How many readers will have seen the late Frank Dyer's famous Borchester Market at exhibitions? Charlie Bloomfield describes the rebirth of this famous layout. I expect that many of us will have read the 'Thomas the Tank Engine' stories as children and wondered where the characters came from. Pat Hammond unearths some interesting facts about their origins, related to him by the Reverend Wilbert Awdry.

We also have several long-lived layouts in 'Layout Focus' - the narrow gauge Rivendell was built in the 1970s, while Thornbury Hill has been around for four decades. Dolgoch, the working diorama built to publicise the Ffestiniog Railway, is even older, having been around for 60 years, but beating them all is the gauge one line at the Bekonscot model village which marked its 77th year of operation in 2006.

It's not all history though, we also feature the work of master craftsman Allan Downes, with several pictorial articles celebrating his model building work in 4mm, 7mm and gauge 1. Bringing us right up-to-date, Nigel Burkin looks back at his experiences in going DCC and some of today's developments.

I hope you enjoy reading this second annual and don't forget your monthly copy of *British Railway Modelling* - the quality model railway monthly.

Happy modelling!

British Railway Modelling

The Maltings, West Street,
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Published by

Warners Group Publications plc
01778 391027
Fax: 01778 425437 (editorial)

Printed by

Warners (Midlands) plc

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ISSN 0968-0764

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The photographer has shown uncharacteristic heroism in capturing this shot, bravely enduring the Stygian gloom of Dainton's tunnel to capture a 'King' in all its glory, storming the last few yards up to the summit. The sharp drop westwards is clearly seen (the sidings to the left are level), and our models have to achieve the equivalent performance of their prototypes.



Mad dogs and Englishmen

Peter Talbot explains how
(with a bit of Welsh help) Dainton Bank was built.



This is the true story of building Dainton Bank, the award-winning O gauge line first exhibited at the Warley (NEC) show in December, 2005.

Please, let me take you back, just a little in time. It is mid-September, 2005, and a member of the Pendeford Group had committed a layout to be produced for the Warley NEC Show in about ten weeks time. And what had been produced to

date? Precisely nothing, except a few buildings. Two out of the three senior members of the Pendeford Group did not want to build another layout after the show-stopping Holiday Haunts, but the third did. So, this is the story of how six idiots set about building a 50' x 20' exhibition layout, fully up to the standards of Holiday Haunts. Some came from the Pendeford Group and others were new to O gauge layouts, hence the title of the layout provider is Michael H and Associates.

There is an old saying that 'it is not what you know but who you know'. However, nothing could be further from the truth in the production of Dainton Bank. The person who committed us and provided the finance we will call 'our leader' (politely) because any other title might suggest that we are all idiots, which we probably are.

Holiday Haunts has been on the exhibition circuit for nearly ten years and continues to draw the crowds wherever it appears. 2004 was meant to be its last appearance but friendly persuasion had given it a kiss of life until December 2006, where it definitely will appear for the last time at the Warley NEC Show. Hence our leader wanted another layout to give him an excuse for a weekend(s) away. So, when the penny dropped with him that there were only ten weeks to go to the Warley Show and demands were being made for a description and photos, something had to be done!

The baseboards were built professionally by a group of Polish carpenters who were doing work in their day job for two members of the Pendeford Group. Giving instructions on a model railway baseboard to anybody foreign is not easy, and building model railway baseboards is not something they do every day. They had also agreed to paint the local village hall and a conversation that had ended in the words 'all right' had been translated into 'all white' when it came to actually painting the hall! Hence our fear and trepidation over model railway baseboards, as you will hear later.

Our leader wanted Dainton Bank also to be capable of normal cab control, as well as ultimately DCC, so Martin duly thought out the electrics. Now, it is one thing to produce ten new front baseboards to replace Holiday Haunts, but another to find a space to erect a layout that measures 48' x 20'. Enter Peter, who before retirement had been a senior member of a local firm with a large warehouse. Hence the weekend of October 28 and 29, 2005, was made sacrosanct to erect Dainton Bank's baseboards for the first time, having also persuaded the local transport contractor,

Nick, to move them to this warehouse.

Meanwhile, Owen from Wales, and Peter, had been commissioned at the Heathcote O gauge show to purchase as many scenic items as possible. Hence, ballast came from Slater's, and cars, caravans, trees, grass, quarry face and many more items from Modellers' Mate. Buses and lorries, etc, were picked up on various stalls, and Andy Duncan's stand produced a jackpot of white metal details for the layout. What we did not realise was the number of man-hours required to assemble and paint all the white metal additions.

So here we were in a big warehouse at the end of October putting up the baseboards for the first time. The fiddle yard sidings came from Holiday Haunts and the new front baseboards had been built. The first surprise was that, due to an error in translation, the curved end boards did not quite have the same angle at the end as Holiday Haunts, but never mind. Another problem was that the overall dimensions were 20' at one end and 21' at the other and there was now a 2' gap between two curved end boards. There was no going back now and the Poles had gone, so the only solution was to produce a small wedge baseboard to fill the gap. By the end of the weekend the open top plywood baseboards had a plywood track surface and C&L track laid roughly on the boards.

The concept of the layout was to have Dainton Tunnel at the summit, with the sidings and setback road at the top of the rising gradient either side. In that way, with DCC operation you can have a banker, etc, and all the sounds that go with DCC. Martin had very cleverly designed in a subsidiary control section that will allow a banker to be used and operated with normal control, because we did not have time to incorporate DCC, and anyway we have no experience of it. Never having tested the layout, we had to await the first run at the NEC.

On the Sunday night at the end of the October weekend, Nick again moved all the baseboards from the warehouse back to the local village hall where Martin and our leader have some sphere of influence. What they cannot stop is the dancing and the art classes, which meant that virtually every night the boards had to be taken down and stored on or at the back of the stage.

So with five weeks to go to Warley we have ten baseboards, all with track on them. Track, which had been super-elevated and did look effective with its wide sweeping curves and no straights climbing up on either side to a tunnel.

Joined now by Ray and Doug



Dainton's signalman will have his sighting mirror covered in even more soot as this 47xx breasts the summit on its express. If not unique, the mirror was an unusual feature.



One of the later, 4-6-0 'Counties' has charge of a parcels train as it passes an ex-LMS 8F. In truth, a Midland Region loco is unusual this far west - was it built at Swindon?



The 'delights' of a caravan/camping holiday are clearly on offer beneath a 'Castle' as she heads eastwards. The campsite is immediately adjacent to the railway, first left under the bridge. For the railway enthusiast, the pitfalls of such a holiday were cancelled out by the presence of the trains, but for those not interested in railways?



It's not all heavyweight stuff on Dainton. Occasionally the WR ran 'dinky' trains over this route - a Newton Abbot-Totnes-only service perhaps, as hauled by this 14xx auto tank.





We make no apologies for having published a version of this picture before (on the September, 2006 cover of *BRM*) for it captures exactly the spirit of Dainton Bank. Weren't those the days? Beautifully clean double-headed 'Castles' on the principal train, and what a sight they made. Though the WR main line through Dainton tunnel still remains, scenes such as this are now but a memory - a memory fortunately perpetuated in the modelling.



On this road, this 'Brit' is probably loathed, for Laird men didn't like the BR Standard 7s at all. Whatever, it could end up in South Wales, where Canton men liked them a lot.

(although the latter works in the week at the new Terminal Five at Heathrow), we set about the scenery. Owen, meanwhile, in Wales was building a farmhouse, pigsty, barn, campsite buildings, quarry crane and various other odd buildings. We really had no master plan and literally played it on the 'hoof'. Baseboard fronts and backs were added, wire mesh over

formers of plywood and newspaper were added and then a mixture of 'Polyfilla' and PVA glue was spread over the whole area. After it had dried, Peter liberally painted it with brown emulsion and also painted the fronts and the back with black baseboard paint.

It was time now to add the green bits in the form of flock powder (obtained in

Germany by Martin and our Leader on a short break holiday with wives), hedges from strips of matting with the whole lot glued down with liberal coatings of PVA. Having no master plan and a deadline was wonderful. There was no time for the usual argument and/or committee meeting; it was a case of just do it! Buildings, animals, trees, cars, etc,



The Welsh connection, illustrated here by this beautiful farmhouse built by Owen. Though the trains are paramount, we do our best with scenic features, too.

all arrived and were found a home. We added the nudist colony, the mermaids in the pond, signs taking the mickey out of various members of the group and finally the telegraph poles and all the other paraphernalia that goes with a railway.

The central tunnel section did give some problems. Owen came up from Wales for a weekend to give a hand and after much trial and error a solution was found. The problem mainly centred on the necessity of getting inside the tunnel in case of a derailment when shunting into the sidings.

So, the Thursday before Warley saw mild panic. We finished the two end boards which lead to the hidden sidings with a form of bridge aperture as we had not been able to get hold of tunnel mouths. We had no proper lighting arrangements but lots of 4mm ply strips and of course we had never run a train on the layout. However, we were confident or arrogant (or mad) depending on your point of view. So, the 18ton lorry was loaded, with a promise to meet the driver at the NEC at 9.30 am on the Friday, which we duly did.

The set up went well and by 2.00 pm the electricians had given us electricity and the first run was about to take

place. Some of the rail joints across the baseboard sections needed adjusting or packing, Martin found problems with the electrics for the bankers and the sidings, but with the help of Ray, who used to work for the Electricity Board, we finally got it running by teatime.

Inevitably such a large layout, where 15-coach trains are possible and look very realistic, will attract a load of admirers (if it works well). Martin had very cleverly taken a caravan from the campsite and had added a motor and cam so that it rocked backwards and forwards ever so gently. Words painted in white on the boot 'Just Married' caused much merriment when two and two were put together. Similarly, the sound coming from the loudspeakers of cows, pigs, chickens, etc, added a note that was different. The only problem we had was that having built the lighting rigs *in situ* at the NEC, when we went on Friday to buy more spotlights they were no longer available at the our local DIY chain store. Consequently, lighting was not up to what we wanted.

However, all problems were quickly forgotten when we learnt that we had won the Mayor of Sandwell's prize at the NEC, and photos of our grinning leader in the model railway press added to our

satisfaction. In truth, and perhaps only because of our long prior experience with Holiday Haunts, the layout performed very well, proving to be highly entertaining to viewers

What have we learnt? First of all we have proved we can do it. We are still talking to our wives – just, having spent really the whole of our November evenings and much of the weekends in the village hall. Would we do it again? Definitely not, but then we were mad enough to do it in the first place, so who knows?

You'll note that surnames have not been included, largely to protect the innocent – and the guilty! Working together as a group has proved what can be done in a very short space of time, as I hope will be evident from Tony's pictures. We'll let those tell the story to date.

By the time you read this, you might well have seen Dainton Bank at the Swindon Steam Museum in September last, in celebration of the life and times of Brunel. After that we have had requests to take it to three shows *per year*, up to and including 2008. We must have done something right in those hectic ten weeks! In the meantime we must finish all the jobs we did not have time to do and we must dirty the whole look of the layout. We will not be bored.



Who'd haul a caravan with a Porsche? Obviously this guy coming towards us, though the real interest is in the ex-works 'Manor' pounding up the last few yards to the top of Dainton bank, heading west. The entrance to the caravan site is to the right – just where that classic Merc' is appearing. Posh caravanners here, what?



A noontime discussion between driver and signalman as one of the Prairie bankers rests before heading back, east or west to pick up its next 'pushing' job.



As regal as ever, this unidentified 'King' prepares for a bit of a breather down to Aller Junction and its statutory Newton Abbot stop. Weren't WR train-reporting numbers a nuisance for trainspotters, especially if you were travelling in the front section of a new-fangled DMU?



The group has a wide selection of locos and stock and just occasionally we run some veteran stuff. Recreating an earlier GWR scene, an original 4-4-0 'County' heads west.



An operators' view sees a 'Castle' about to plunge into Dainton tunnel's murk as she heads an Up express. BR Mk.1 coaches looked most attractive in WR guise.

An original 'MN'

Tony Wright builds the 4mm PDK 'Merchant Navy'.

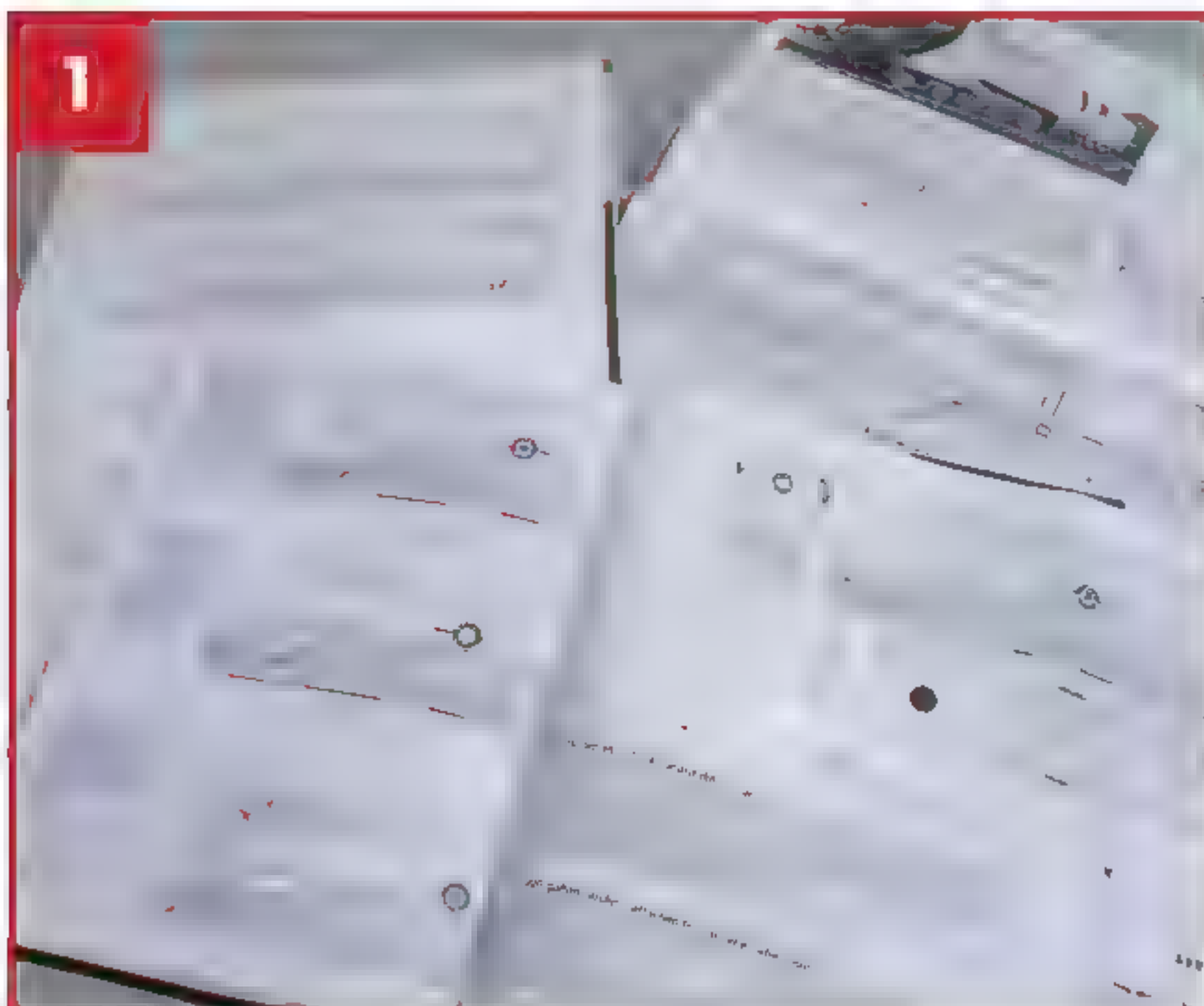


The model's prototype, ready to leave Waterloo for Bournemouth in the mid-'50s. The platework is typically poor for an original 'MN' - can you imagine Swindon turning out a 'King' with so many buckles and dents? The 'limpet' board is rippled as usual and the smokebox 'lid' doesn't line up with the roof. **Photograph by courtesy The Transport Treasury.**

Can there ever have been a more revolutionary design of steam locomotive than O V S Bulleid's 'air-smoothed' 'Merchant Navy' Class? His 'Leader' was even more radical but was never perpetuated in numbers and never ran in revenue-earning service. The later, 'light Pacifics' of the 'West Country' and 'Battle of Britain' Classes shared some of the 'notoriety' of their bigger sisters but the unprecedented appearance of the brand-new *Channel Packet*, in 1941, during the darkest days of WW2 must have been nothing short of sensational. How, for instance, when raw materials were at their shortest, could expensive gunmetal be used for the numberplates and the ownership plates, especially when saving weight

Some of the main source material used. I also employed as many photographs as I had in my collection, as well as information contained in magazines and journals. Much has been written about these locos!





1 The Fry and the Harvey books are particularly useful in that they contain accurate scale drawings at the back. Russell's mammoth book on Southern locos was also consulted but this isn't specific enough.



2 The first Crownline Bulleid chassis were designed with compensation as standard. PDK's are supplied rigid, and if you wish to compensate, you have to modify the chassis - clearly explained in the instructions. Believe me, rigid is better for OO.



3 The big DJH gearbox and nice fat Mashima motor. No model loco can have more empty space inside than an original 'MN', so you can fit what you like, with no concern over size. This works wonderfully well.



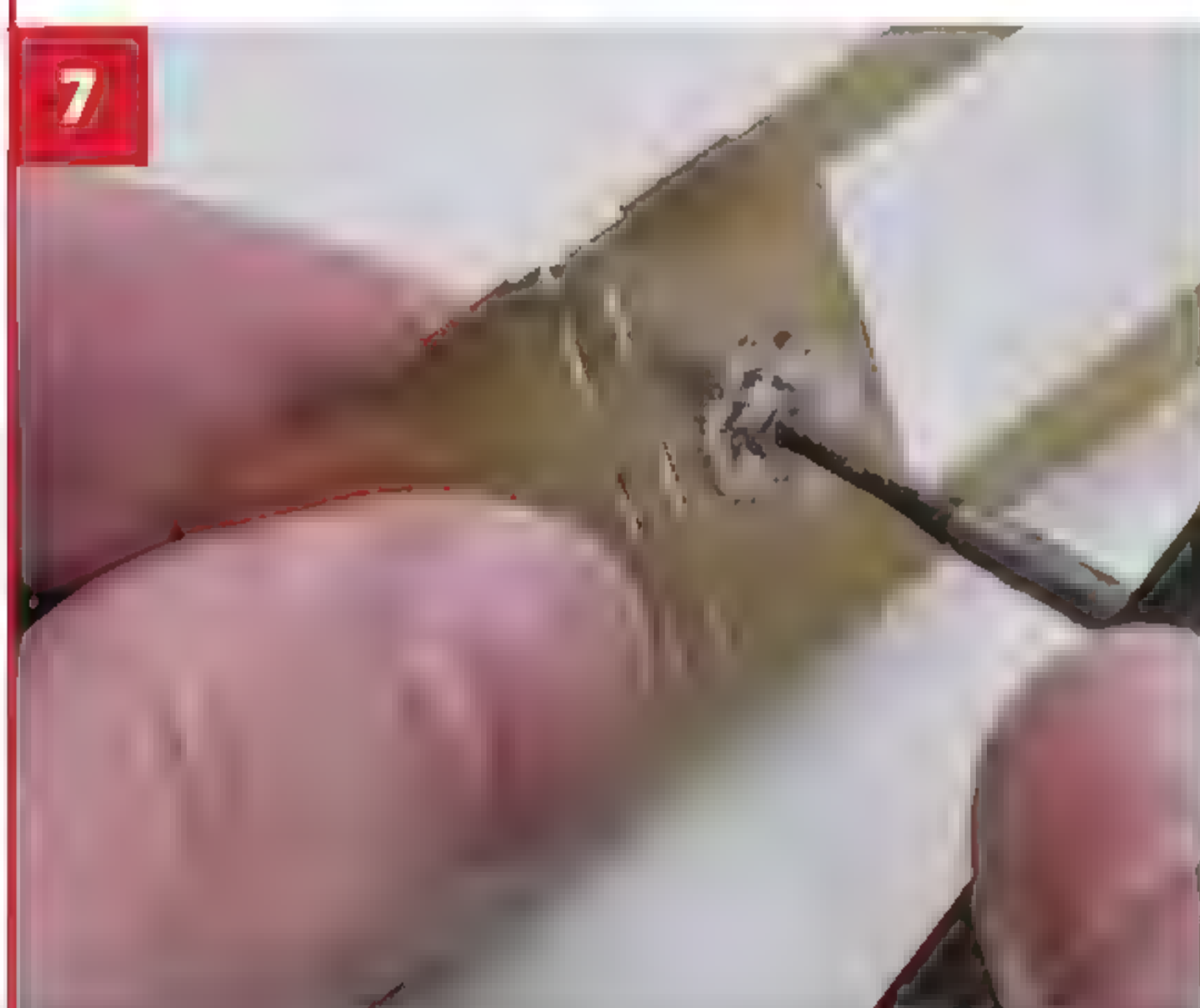
4 Unless you're going DCC, a live chassis is quite suitable, and here my standard 26 SWG nickel silver wire pick-up arrangement is shown. Small-bore PVC tubing prevents the odd chort circuit.



5 All body parts are best inspected and prepared before assembly, with modifications carried out before fixing. To accommodate boiler top detail, a slot has to be removed from a former. Easy with a piercing saw.



6 Though I've demonstrated how to solder on 8BA chassis-fixing nuts to a footplate before, folk still ask me about it. Just use a cocktail stick to locate the nut and then apply the iron.

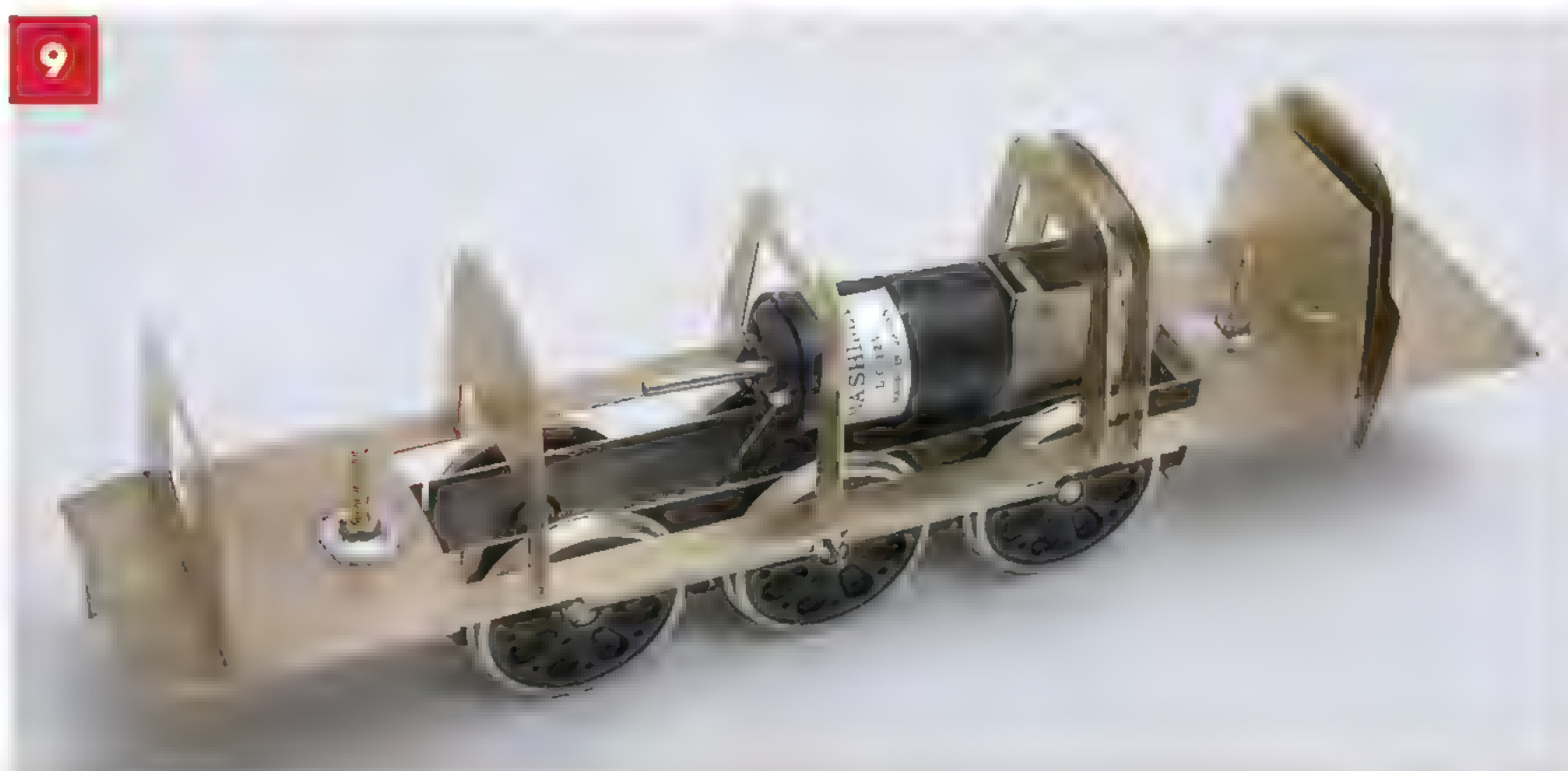


7 No matter how careful one is with soldering on a nut, some contamination to the threads is inevitable. If you try to clear it with a bolt or screw, it'll gum up or come undone. Use a proper tap instead!



8 The main bodyside supports need careful bending, best achieved using a set of bending bars initially. They're half-etched, which aids the bending, but the 'curve' is not uniform on the real thing.

9 With all the transverse formers in place, the 'skeleton' of our 'MN' is beginning to take shape. Note the slot previously mentioned. Devilishly difficult to do after it's been soldered in place.



10



11



10 One bodyside support has already been soldered in place and its partner awaits fixing. It's vital that no inaccuracies are built in at this stage, and all slots and tabs are prepared for a perfect fit.

12



13



11 The side overlays are half-etched to provide surface detail, thus they're very thin. I used my coach tumble-home-forming device to impart the main curve, finishing off with fingers and long-nosed pliers.

12 It's best to leave a little 'spring' in the sides to let them naturally follow the shape of the supports. I started soldering at the top in a series of tacks, and then ran the iron along between them.

13 Once happy that the top is secure, attention can then be turned to the bottom. Finger pressure held the side locally in place. You will get slightly burnt fingertips, unless you know of a 'safety device'. I don't.

14



15



14 Fingers burnt, but one side is on, and the middle can be soldered up with impunity. Ripples and cockles are likely to occur - just as they did on the prototype - but they are realistic. Can you live with them, though?

15 It's beginning to look a bit like an 'MN' by now. The turn-ins at the front were soldered last of all. At every stage it's vital that the body is test-fitted back on the chassis, any necessary adjustments are then easy.

16 The front end folded up very easily just following the half-etched lines. It's important to use pliers with long enough jaws to do a bend in one go. The fit of parts to this stage was perfect.

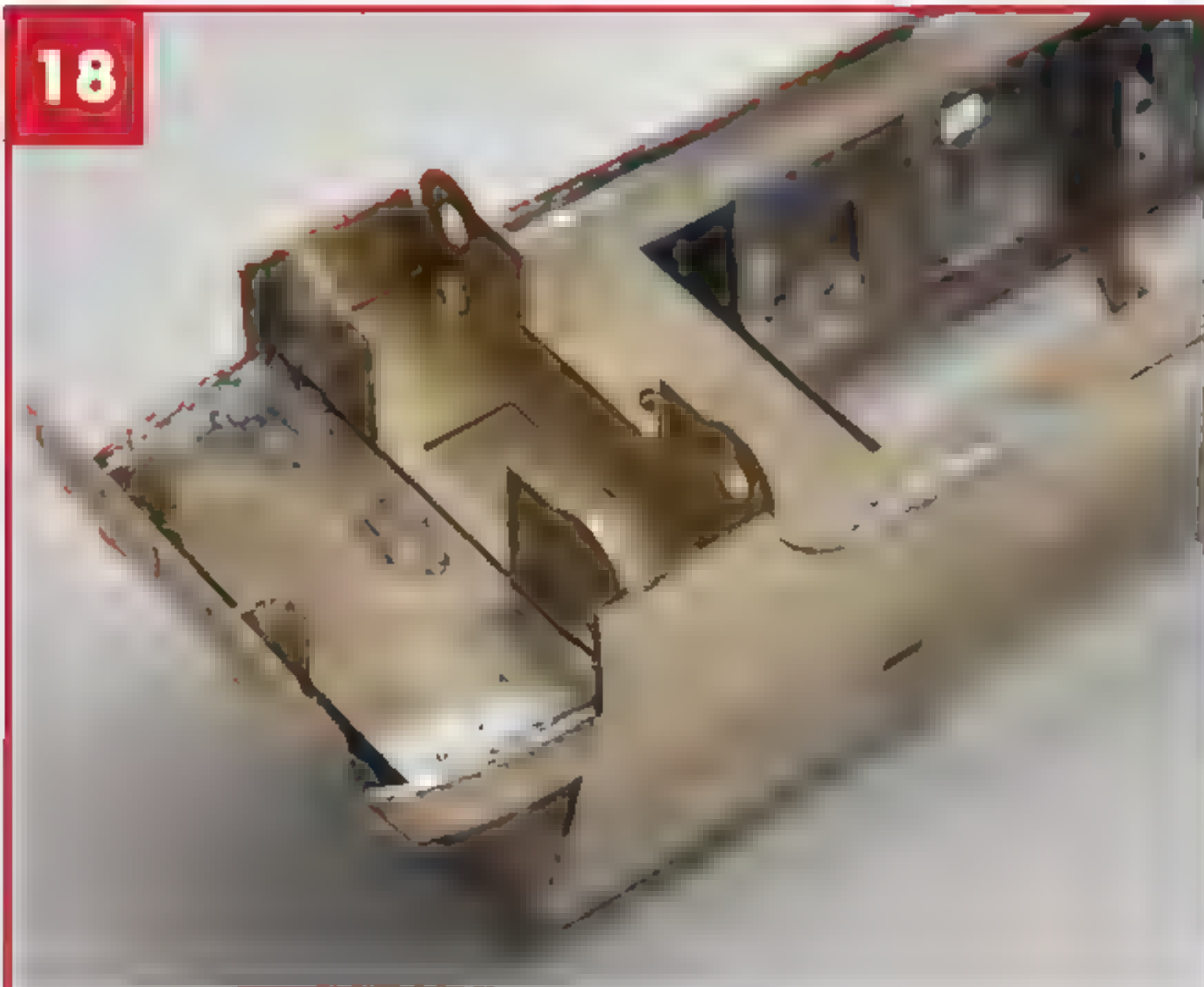
17 The front made up and installed. A bufferbeam overlay is supplied but don't use it. In reality the platform extended over the beam, unlike the kit, which has it flush.

16



17





18 Two cylinder stretchers are provided - use the brass one, for the (wider) nickel silver one suits later series engines and won't fit between the bodyside extensions. As always, check for fit at every stage.



19 Both early and later cabs are catered for. The early version requires part of the firebox outer cladding to be cut away. Fortunately, my loco has the better, 'V'-fronted cab, for the cutting seems to be a tricky job. The cab lower panels were shaped and then tack-soldered.



20 Though the tab and slot construction was very accurate, a depression at each slot was still evident. I 'puddled' 145° solder over these, making sure that the depressions were completely filled.



21 The excess solder 'lumps' were then cleaned off with a variety of files, finally finishing off with wet and dry and fibreglass burnishing tool. The rear cab support was then soldered on. Take care, for you're given two.



22 Two roofs are also supplied with different positions for safety valves, etc. Forming the rivets took ages but they're very distinctive. Pick your prototype very carefully, for the roof modifications varied in style, how much was altered and when it was done among the locos.



23 Having a temporary cab support is a fine idea, ensuring the cab's shape is maintained as it's attached. Once cut off, attention can be turned to fixing the rear hand-rails. A suitable thickness of scrap cardboard makes a perfect spacer for fixing the right distance.

was essential? How could very expensive new express passenger locomotives be constructed (we're told that the 'MNs' were described as 'mixed traffic' in the Southern's propaganda) when clearly there was the greatest need for a true mixed traffic type? It must be remembered that the much-maligned Edward Thompson was producing just such a type in his B1 for the LNER at the same time. Interesting, too, to speculate that had Bulleid not taken up the CME's post on the Southern, he would automatically have taken that position on the LNER after Gresley's death. No rebuilt P2s to A2/2s or mutilated *Great Northern*, then. How interesting, but what would the LNER have finally got under Bulleid, especially as Peppercorn would probably never have made CME?

Whatever, history is what actually happened, not what might have been. In the end 30 of Bulleid's enigmatic giants were built between 1941 and 1949 (not to mention 110 of the lighter ones). In part they were fantastic - powerful, fast, free-steaming, modern and smooth-riding. In equal measure (if not more so) they were unreliable, a

fitter's nightmare, prone to catching fire, susceptible to violent slipping (even at high speed) and had a tendency to cover everything in oil. They could, at times, haul anything hooked-up behind them, making a mockery of a timetable in a way impossible with any other class. If they didn't fail, the train was on time (most important to passengers, after all). That they could do it with dud coal (no British locomotive had a better boiler/firebox) was a Godsend in the austerity years. However, they could just as easily slip to a standstill and fail completely. Eventually, because there were so many Southern Pacifics, there were always plenty of spares to cover the all-too-frequent disasters.

BR played around with the notion of scrapping the lot (there was talk of just building more 'Britannias' for the SR) but the solution was to rebuild all 30 'MNs' into conventional steam locos under the direction of Jarvis at Eastleigh. The chain-driven valve gear went, and the built-up smokebox as well as the air-smoothed casing, but the fantastic boiler/firebox and the crack-free Bulleid/Firth-Brown wheels were retained. At a stroke, Britain's

finest ever Class 8P express passenger steam locomotive was created, but that is another story.

And so to the model. My first encounter with an etched-brass Bulleid was when I built 'WC' Class, 34094 *Mortehoe* from a Crownline kit (BRM May, 1995). I also built one of the Crownline second series original 'MNs' (with a cut-down tender), and an account of this appeared in the late-lamented *Modelling Railways Illustrated*. This account appeared just prior to Scaleforum one year and dear old Dave King was annoyed that he hadn't brought enough kits - he sold out! I've also built a further pair of Crownline unrebuilt light Pacifics since then.

Though Crownline has gone (much to many's dismay) but Dave King is still producing excellent kits under his PDK label. They're Crownline in terms of concept but they're superior in terms of materials, of which more later. A while ago Dave sent me one of his first series 'MNs' with a request that I build it and review it. Circumstances dictated that other PDK kits were built first (his O2 featured in BRM last year) but the 'Merchant Navy' seemed to be an

24



24 The window surround areas of the cab are supplied as white metal castings, and they fitted very well. My 'macho' soldering technique resulted in the melting of one rear corner - too hot and too slow with the iron!

25



25 No fears, for low-melt solder makes an excellent filler and, when rubbed down, the joins are invisible. However, don't get an iron subsequently anywhere near the finished job. The parts' fit was superb and the cab roof needed almost no cleaning up.

26



26 The smokebox cowl fitted perfectly, too. Soldering this on had to be done externally in the main - make sure you rest the iron on the brass. Two chimney styles are provided, so take care you choose the right one.

27



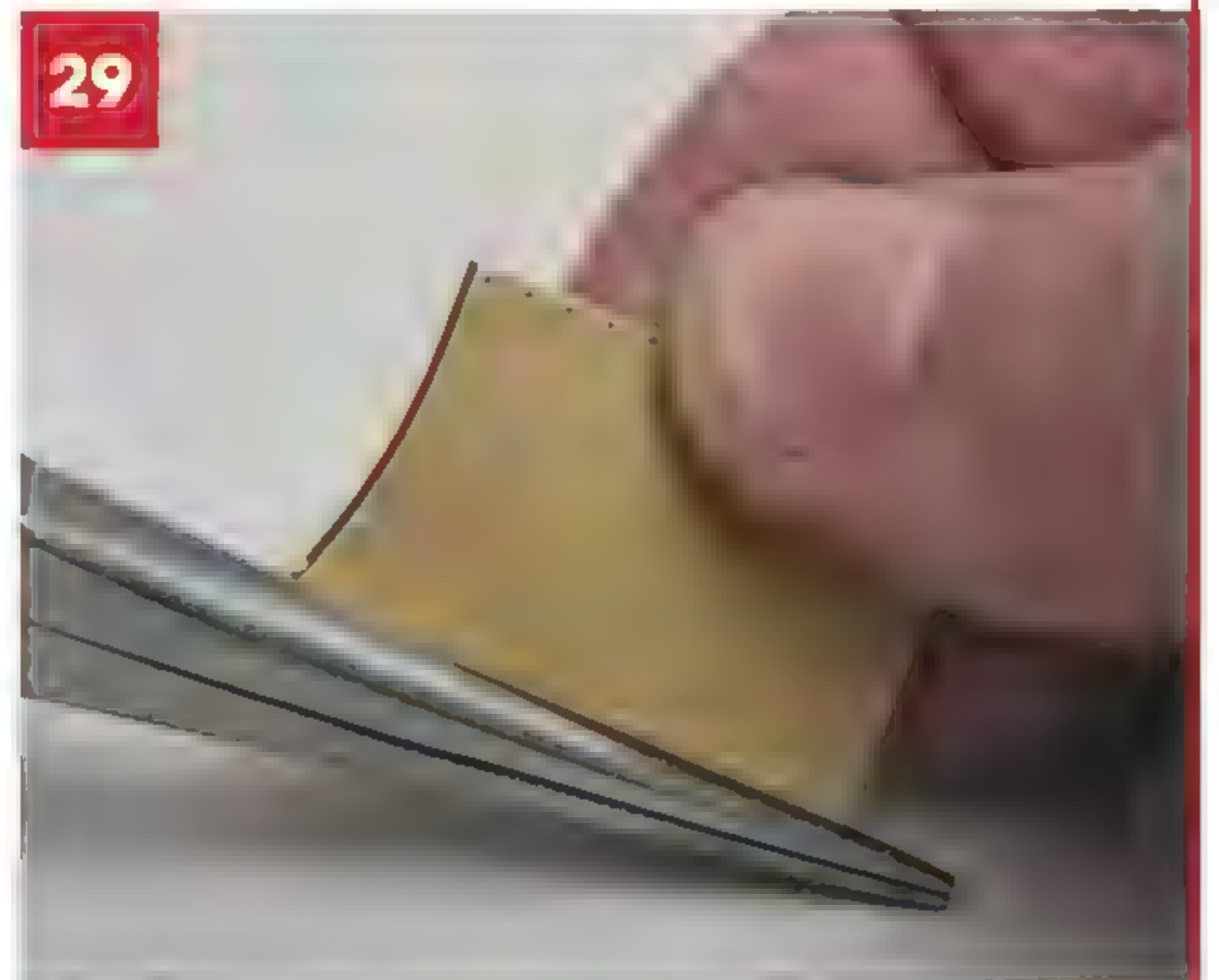
27 You're instructed to form the rainstrips from 'two lengths of brass wire'. Since these strips are definitely not round, why? I substituted 1/32" brass angle, cutting it off to length at the front, once it was soldered on.

28



28 Since the strips had to be soldered on externally, some cleaning up was bound to be necessary. A sharp craft knife was ideal, the job being finished off with fine files and fibreglass pencil.

29



29 Starting forming the shape of the smoke deflectors was best achieved using snipe-nosed pliers with jaws long enough to accommodate the full length. Take care, for there is a tendency for the deflector to buckle in the vicinity of the half-etched beading - like the prototype.

30



30 The joggle was then put in using bending bars and finger pressure. No two prototype locos appeared to have exactly the same shaped deflectors - some seemingly almost straight, others quite curved. Take your pick!

31



31 No means of attaching the top of the plates to the casing is supplied, or recommended. The real things had a series of clips - flimsy to replicate on the model, so I soldered on a spacer of 2mm square brass.

32



32 Both deflectors firmly fixed on and curved-in at the front at the bottom. Since brass won't bend in two directions at once, the curve-ins buckled. Steel won't either - just look at any prototype pictures.

ideal subject for an extended review in this *Annual*. The kit comes complete apart from wheels, axles, crankpins and motor/gearbox. An appropriate set of wheels was ordered from Markits and suitable motor/gearbox from DJH - both my preferred choices in OO or EM. I've never built anything in P4 so cannot comment from personal experience as to the best choice of wheels.

I also dug out plenty of source material, the most useful of which being

The Power of the Bulleid Pacifics by Stanley Creer and Brian Morrison (OPC, 1983), *Bulleid Power The 'Merchant Navy Class'* by A J Fry (Alan Sutton, 1990), *The Book Of The Merchant Navy Pacifics* by Richard Derry (Irwell Press, 2001) and *Locomotives in detail 1 Bulleid 4-6-2 Merchant Navy Class* by R J Harvey (Ian Allan, 2004). Dave King's instructions were also useful - they include the usual quirky drawings, but also some handy photographs. By not following these instructions I made a

mess in part, though I got out of it - as will be explained!

Beware - this class is a minefield. The first-series kit I had suits only 35003-10 (BR numbers), those clad in 'limpet' board (a kind of corrugated asbestos 'sandwich') rather than the (at the time) hard-to-obtain steel. Dave is considering a kit for 35001/2 - and these had differences. He also does kits for the other ones, including as-built or rebuilt tenders - all pretty comprehensive and to a consistently high standard.



33

33 After certain points are reached in a loco's construction I always turn to another part. After happy that the basic body was right, I turned to the bogie. The bearings wouldn't fit at any price, so their holes were opened out with a taper broach.



34

34 Bogie and pony trucks made up ready for testing. Why shouldered screws for fixing such items are not supplied in kits, I don't know (Markits make them). I made up one from an 8BA screw and a piece of copper tube cut to length with a piercing saw.



35

35 At much the same stage I turned to the tender frames. The triangular footplate supports are etched as full members running at right angles across the sole plate. In order to fit the sub-frame, their centres must be cut off after the triangles have been soldered in place.



36



37



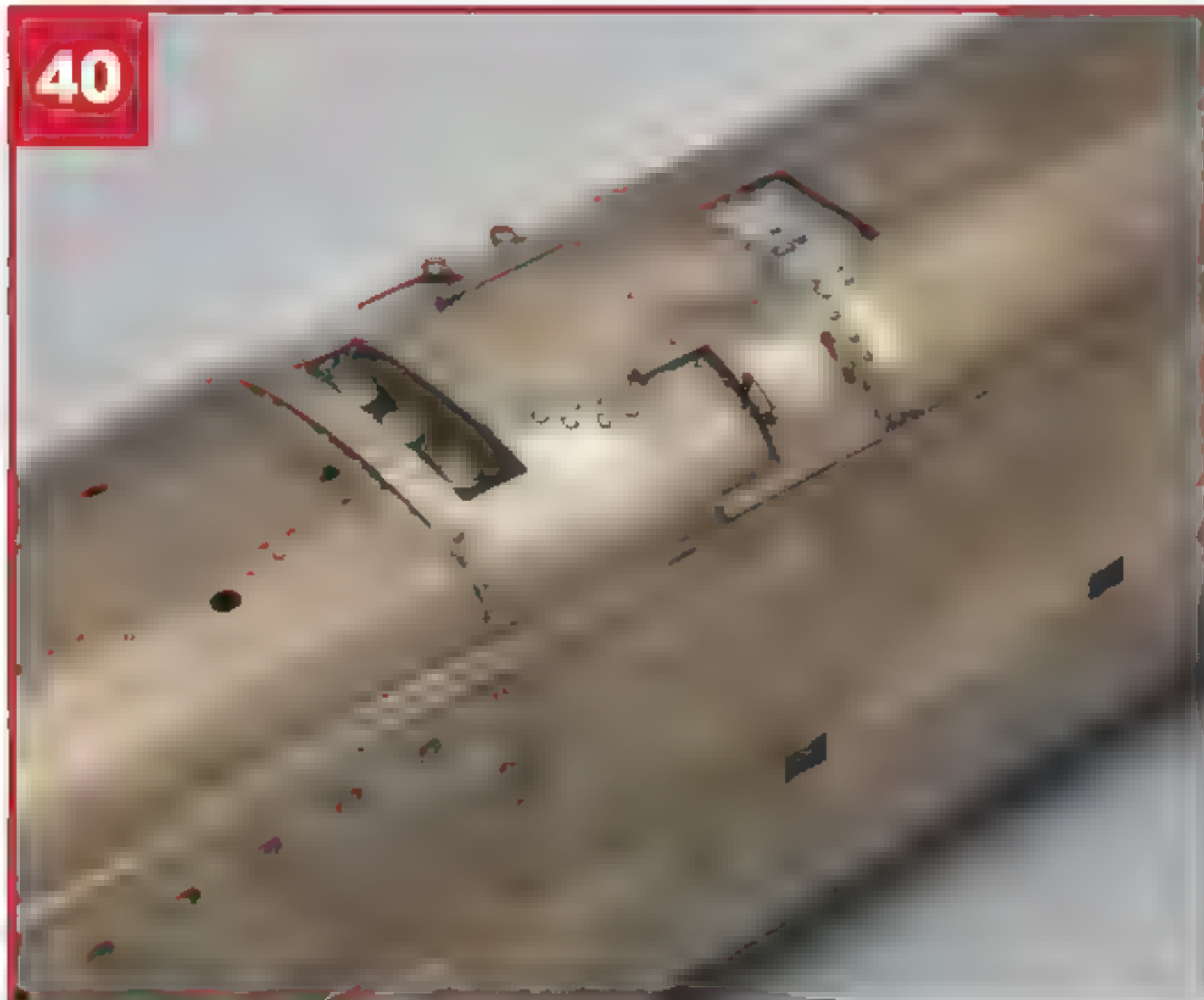
38

38 Happy that my basic loco performed as expected, I turned my attention to finishing the body. Very nice etched-brass window frames (of both types) are supplied and these were carefully soldered in place with low-melt, after they'd been tinned with 145° solder.

39 Though not one of the 'limpet' board-clad 'MNs', this shot gives a good view of the complex shapes we've to form. 35001 is in BR blue and still has her original cab and front cladding. Her smoke deflectors appear to be dead straight and would you copy that platework? Photograph by courtesy Roger Carpenter.



39



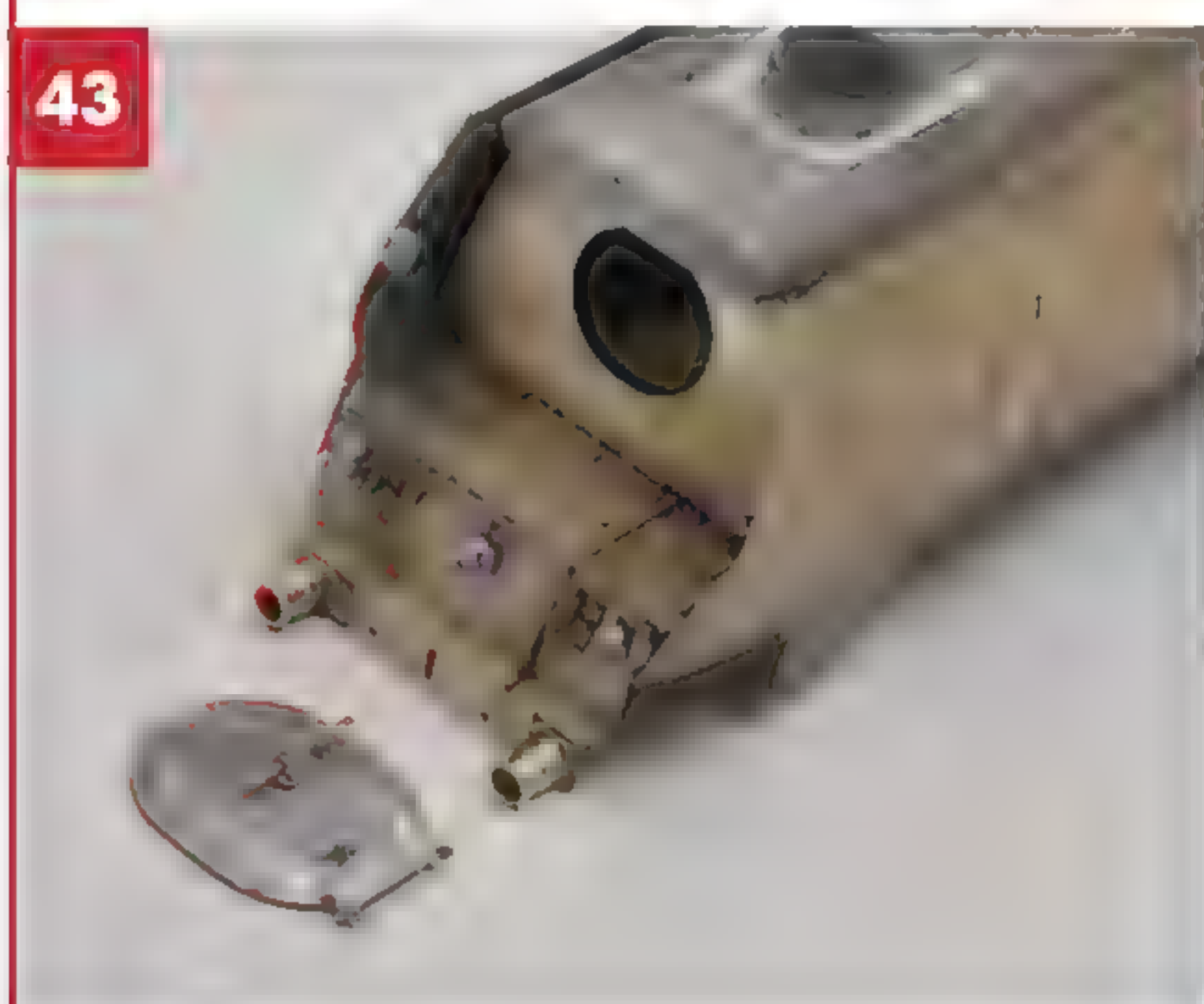
40 As mentioned, the various positions for safety valves and inspection hatches are catered for. Most soldering for the hatches is external and, thus, must be done extremely carefully to minimise the amount of cleaning off.



41 Turned-brass, sprung Alan Gibson buffers are supplied and their shanks must be soldered on with the bases square. They're too fat for a cocktail stick to hold them in place, though a (dirty) mouse-tail file did the trick - the dirt preventing any solder contamination.



42 The front lamps and brackets are supplied as cast metal items. They're fixing in place by glue is not an option. Instead, I tinned their locations with 145° solder, and fixed them in place with low-melt, holding them in position with self-locking tweezers.



43 All the lamps are on and the smokebox door made up. The Southern described its trains by route rather than status, so more brackets are needed than for other railways. The extra ones on the smokebox door were made from scrap etch, positioned by reference to prototype pictures.

44 After all the lost-wax injector/ejector pipes were fixed to the fireman's side below the firebox and cab, it was found they restricted the pony's swing. The cure was to file off the top of the pony's axle keep on this side. Though detail was lost, it's all but invisible in running condition, and it's vital that no interference takes place when the loco runs on a layout.



45 Bodywork just about complete and it's time to concentrate on finishing the other components. In the main, prototype pictures (depending on period) show the front sandbox fillers closed off but the other two with their covers wide open.



46 Back to the tender, and it's time to ensure the back goes on straight. An engineer's small square achieved success (you have to file off the top of sideframes' tabs to make sure it sits properly). Accurate tab and slot construction made this job easy.



47 The tender sides are etched full thickness and thus required the aid of rolling bars to shape them properly, something I'd find difficult to do by hand. The rear panel gives you the basic shape, so just follow that.



48 The tab and slot method of fixing the base of the tank to the soleplate echoes the lower cabsides' mode of construction. As before, any depressions were covered with puddled solder and the job finally cleaned off.



49 Major cock-up, one! The last brass Bulleid I built was a 'WC', with no sharp curve-over to the tender sides at the top. Remembering that, I didn't follow the instructions which clearly tell you how to shape the top, resulting in this huge gap between the sides and the bunker.



50 By pushing over the tops of the sides I was able to close the void, though not fully. This resulted in a small gap between the top fairing and the sides when the former was shaped and fitted. Puddled solder soon filled this gap.



51 Subsequent cleaning up took ages, and I'm still not happy with the final shape, though paintwork divisions will probably help hide any real discretancies. By 'forcing' the top over, some 'buckling' of the tender sides occurred - just like the prototype!



52



53

52 Brass wire was supplied to make the tender rear lighting conduits. I used 15amp fusewire - so much better. Latterly checking prototype pictures, I don't think the linking wire on the right hand side is correct.

53 The final job on the tender, after all 'hard' soldering had taken place, was to fix on the white metal axleboxes. I just tinned the frames and then applied low-melt solder to the rears. Lost-wax brass steps and ladders are vast improvement on what Crownline used to supply, in white metal. My original BRM 'West Country' has just about lost all her white metal steps, ladders and stiles after several years' service.



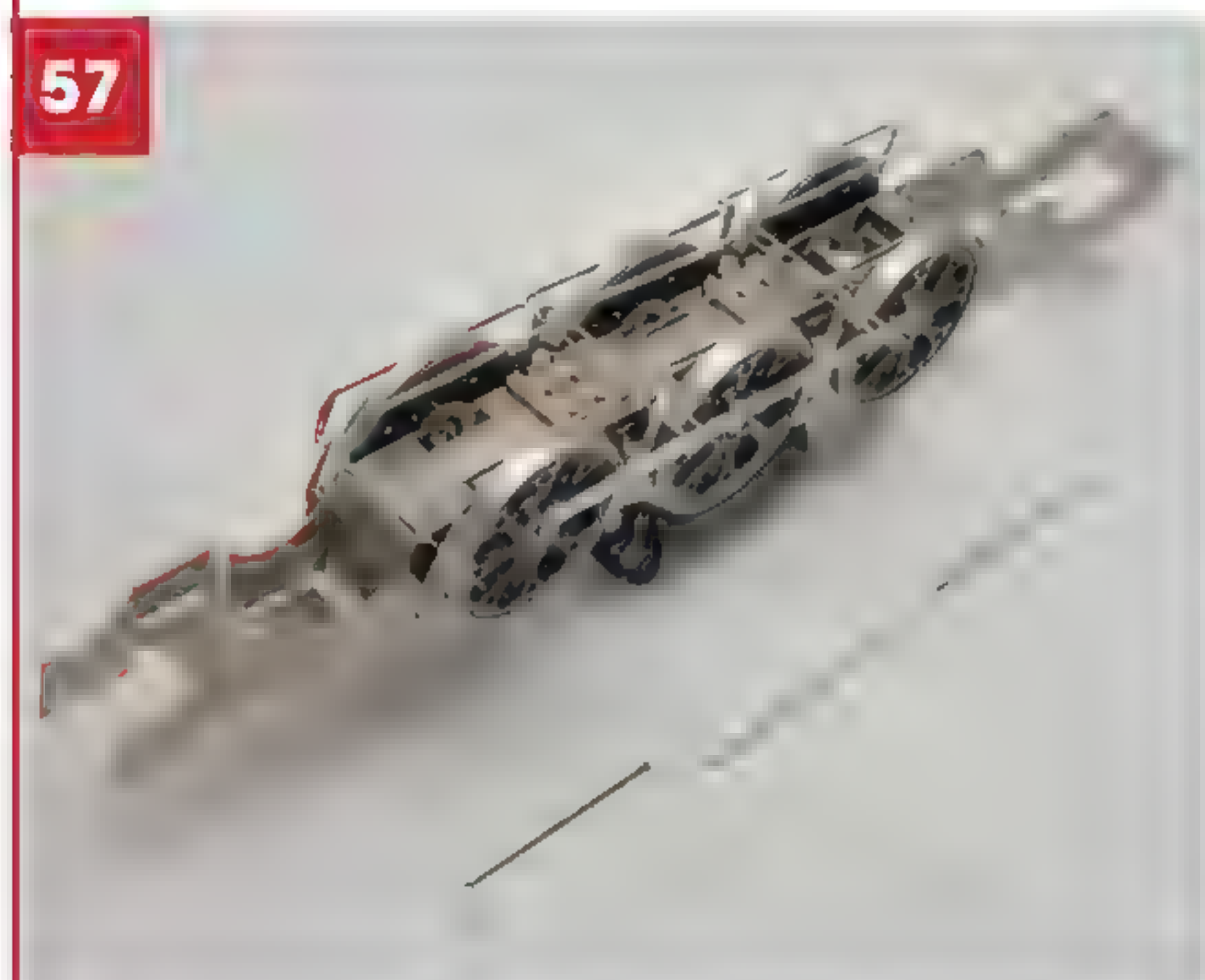
54 My unprototypical gap between the tender's sides and bunker was filled with Plastic Padding. It's recommended that holes are drilled in the tender top to accommodate the ladder styles. Butt joints were fine.



55 The filler has been cleaned up and the subterfuge is complete. I didn't waste time by making up the self-trimming bunker, substituting a sheet of lead. The tender sub-chassis made up into an excellent unit.



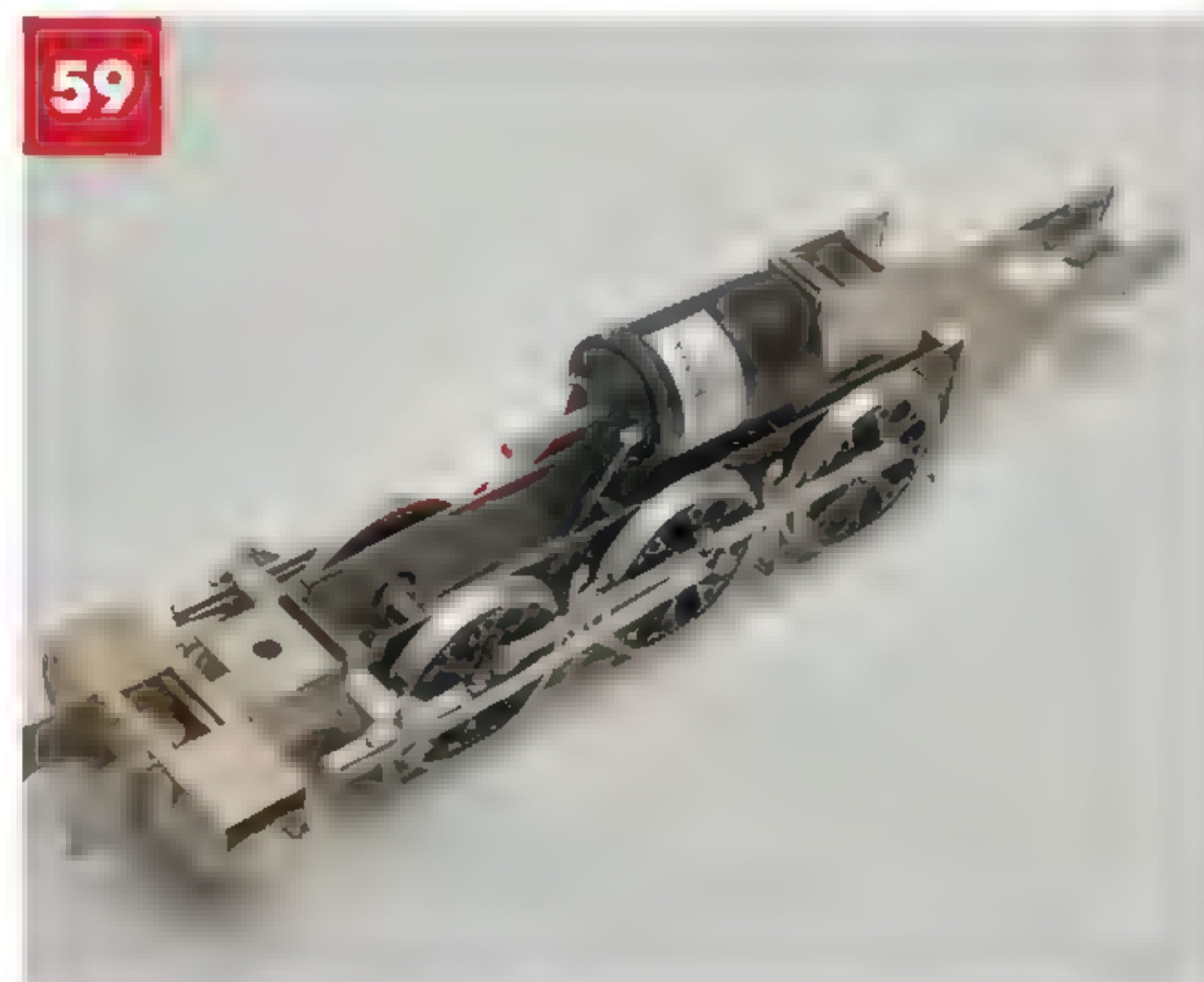
56 Bulleid's locos tend to have more brakes than others - were they faster or the brakes just no good? After soldering on the blocks, each hanger was attached in turn, held in place with self-locking tweezers.



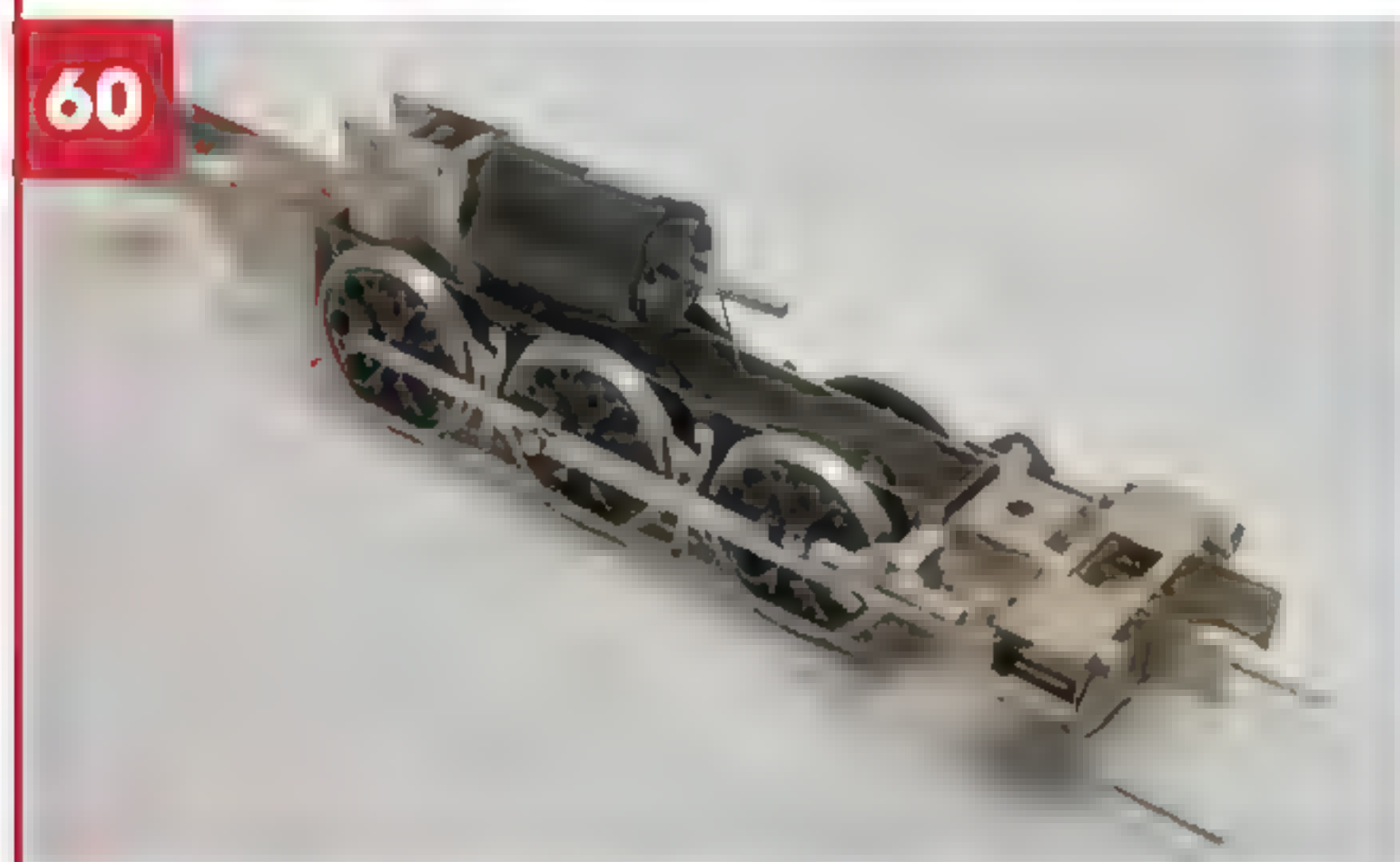
57 More brakes need more rigging, on both sides of each wheel. Unless you're good at sums, working the rigging out will take a while. The instructions suggest the use of glue for this job because of the close proximity of the joints. They're kidding, surely?



58 I found it easier to have the piston rods running in brass tube rather than just the end bearing supplied - that way the rod is supported throughout its full travel. When happy, the excess was just taken off with a piercing saw.



59 Cock-up, two. I made up the slidebars' support up-side down. The usual convention is half-etched lines inside but I didn't read the instructions. Much filing (and swearing) succeeded in lowering it to the correct height - something dead right if I'd done it properly!



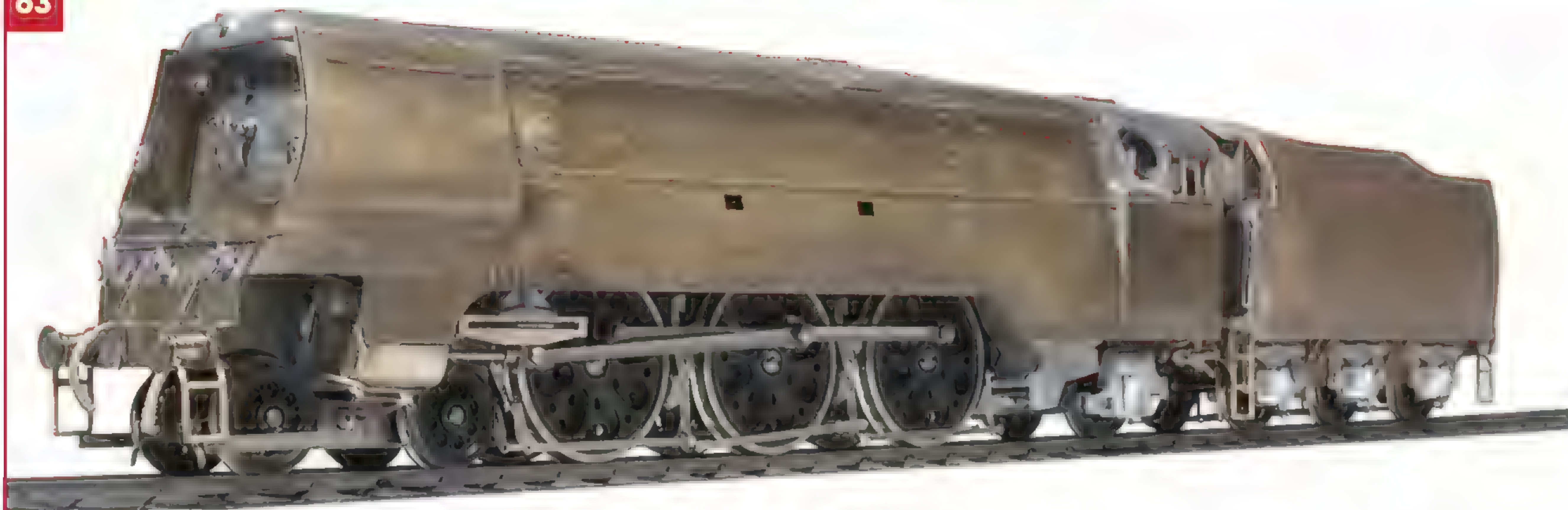
60 At last, the chassis complete and a very sweet runner, too.

61 The bogie runs in a centre pivot and is designed to be sprung. A complete coil spring is provided, but this is too long (lifting the front of the loco up). I just cut it in half.

62 That distinctive front end. The top lamp bracket was fixed lower after the 'Southern' roundel was removed.



63



63 As usual, this loco will be going to Ian Rathbone to be painted, even though the horizontal-only lining should make finishing easier. Plates will be by Fox. The final job was to solder on the 'Devon Belle' 'wing'-fixing brackets to the smoke deflectors. As far as I know, all this 'limpet' board series had them for all their unrebuilt life, so why weren't they just etched on as standard? I'm delighted with this loco, though I've no appropriate layout to run her on. When she comes back from Ian Rathbone, I'm open to offers!

May I digress for a short while? Some recent correspondence received has been along the lines of 'not another how to build a locomotive article from Tony Wright'. True, this is yet another one but why should one stop writing them? The current mainstream offerings from Hornby and Bachmann are unbelievably good, rendering kit-building of those particular represented prototypes superfluous. But that shouldn't mean an end to kit-building - surely not? For those who know all there is to know about it, and have a complete mastery of all the techniques I've frequently attempted to describe (and have many more, and better), then anything I write is not for you. However, there are always newcomers who 'don't know' but wish to learn, and every kit, however good, has a unique set of 'problems' to solve. Such problems are not a criticism of any product, but no kit merely falls together and there are always a few tips or dodges to pass on. After all we can all learn by our mistakes (and, as you'll have read, I made two major cock-ups with this loco's construction). Is it any wonder then that I'm frequently called a 'know-all'? Remember, too, the famous phrase 'use it or lose it'. We are in danger of our 4mm kit manufacturers disappearing as their best sellers are duplicated by the big two RTR manufacturers. My hypocrisy has never been greater exposed than when I tell you I'll never build another 4mm A3, A4, K3, 'Austerity' or 9F, etc. Those now offered RTR are too good, but that doesn't mean I'll stop building kits. After all, isn't 'making things' crucial to this hobby? Another factor and curious (though, inevitable?) side-effect of RTR excellence appears to be the increased perception of what people can have (or, perhaps more significantly, what they can't have). If a particular model

isn't available (or maybe because it isn't absolutely dead right) then there's a vociferous bunch pressing for it, or for it to be put 'right', almost as if of right. I'm sorry, but unless you're prepared at some stage to actually make what you want or modify something to produce what you want, then you're going to be disappointed. I know people bleat about not being able to, either through lack of skill or experience. Well, that's a fact of life and if you can't make something, or can't afford someone else to do it for you then you'll have to go without I'm afraid. Such 'political incorrectness' is frowned upon nowadays, smacking, as it might be perceived, of elitism. Why? Though I play cricket, it will never be (nor ever has been) for England. The reason? I'm not good enough. Though the analogy isn't brilliant, it is relevant. Anyway, the main purpose of my articles is to encourage folk to have a go, so I'll continue writing them. Though it might be seen as arrogant to suggest I might 'influence' some modellers in a positive way, may I pass on my thanks to all those who've thanked me for my previous articles, and the DVDs on locomotive kit building or modifications I've made?

Rant over? I hope so, but ironically the critics have the solutions in their own hands. Produce something for us, on subjects you like - well built, well written and well photographed. If it's OK (and why shouldn't it be?), we'll publish it.

To return to the kit. As mentioned earlier, this class is a minefield for the unwary. The kit isn't entirely comprehensive for covering every manifestation of the locos it can represent. As far as I can tell the original front end is not catered for nor the original high back to the tender. However, it will allow you to build a loco from the period just prior to Nationalisation up to

the time the class was rebuilt. Choose your individual carefully for the pitfalls are many and varied. Fluted or plain rods, original or 'V' fronted cab, altered position of safety valves and whistle, casings ahead of cylinders and whether or not the lower tender sides were cut off are there to trap the unwary. I chose 35008, *Orient Line* to make my model represent, late in its unrebuilt life, as per the picture on page 66 of Richard Derry's book and the header picture for this article. I had considered doing 35005, *Canadian Pacific*, but for a later period she had plain rods and the bottom of the tender tank was cut away. This latter loco could be made to look exactly like 35008 (Plate 117 in the Creer and Morrison book), providing she's in BR blue - a colour I have no liking for (though I can recall seeing it on a 'Duchess' at Conway when I was seven years old). No, BR green it has to be, even though I never saw an original 'Merchant Navy', in any colour. I saw almost all of them as rebuilds - a condition I prefer, I have to say.

Conclusion

All in all, a superb kit. The fit of parts is excellent and the design most 'user friendly'. With care (and by following the prescribed path), a most convincing model can be made of Bulleid's 'masterpiece'. Anyone with a reasonable command of kit-building should have not the slightest difficulty in achieving success. For just over the price of a current RTR rebuilt 'MN' (ex-wheels and motor), and several hours enjoyable construction time, you'll end up with a really fine model. I thoroughly recommend it.

Available from PDK Models, Blowing House Garage, Triliever Road, Penryn, Cornwall TR10 8HL.



Young visitors to the Amusement Park in Rhyl enjoy a ride in Tri-ang Minic narrow gauge stock. Peter Marshall Collection

Tri-ang Minic narrow gauge railway

Michael C Shaw remembers Tri-ang's short-lived excursion into the world of 10 1/4" gauge miniature railways, and Robert E Vickery provides an engineering description of a first class restoration. Photography as credited.

In the early 1980s, the building industry was a mess, although by degrees far more prosperous than today. But I felt little point in pursuing my career in architecture. I was beginning to look for work as I had finished building large (but small scale) port models for the Saudi government and a mock-up of the Tornado's cockpit and Head-Up Display.

There, between a report and photographs of the Broadstairs Dickens Festival, was an advert for a 'Research and Development Engineer with model making experience' who could double as a designer. I applied, and within four days found myself employed by Pedigree Dolls and Toys. The company, housed in the former Lines Brothers Minic Motor Works, Market Way, Canterbury, was making Cindy dolls and other toys at this time. The R&D Department was staffed by talented model makers and



What the Tri-ang Minic locomotive was based on - dual-voltage electric E5001 class (later Class 71). Pat Hammond Collection



The Tri-ang Minic E5001 locomotive and Pullman car showing oak slatted seating. Michael C Shaw

in the workshop and, in one notable instance, blowing a hole in the floor with a home-made Colt 45. But, more usually, and out of sheer necessity, they were for the repair of all sorts of damaged household goods. In my case it was looking through the fascinating product store that housed many tin-printed cars going back to the pre-war era, together

passenger-carrying railway I had seen at fairgrounds and always associated with showmen. Pedigree had been lurching towards receivership before I arrived and my arrival no doubt added to their problems! My stay was fruitful - in that I produced the design work for a year's new products to sell - and brief - I watched their introduction and the



Detail view of E5001 locomotive body and front bogie. The body mouldings were of an identical two-piece form joined by road vehicle tyre rubber/glass sealing strip. Michael C Shaw



Tri-ang Minic Pullman car right-hand side moulding - note the Tri-ang trade mark. Michael C Shaw

engineers, mostly ex-Tri-ang Hornby personnel, all underpaid and in a perpetual state of low morale, each trying to do the promotion trick between the two companies.

For the engineers, lunch hours were filled by the testing of live-steam locomotives

with the complete Minic and Scalextric range.

I could find no trace of the old Minic test track buried under the car park, but the most interesting artifacts to come to my notice were some photographs and drawings of a 10¼" gauge

company's final dramatic collapse from the leisure of the dole queue. And that was that as far as I was concerned - I was wrong again!

Some years later, I purchased a job lot of magazines from a member of my



Pullman cars were fitted with tubular mild steel frame seats with oak slats. Michael C Shaw



A real railway! A large Tri-ang Minic narrow gauge miniature railway of the 1960s. Pat Hammond Collection

model railway club who was leaving the area and found an article about a Tri-ang Minic narrow gauge railway by Alan Wright (September 1973 *MRC*), which I showed to my club President. He astonished me by saying that he had one running around his garden which I could come and have a look at.

The system

The Tri-ang Minic system was originally introduced in May 1963 and production ceased in 1965. It was 10¼" gauge and intended to bring large scale



A further view of a large TMNR installation with plenty of stock in evidence. Pat Hammond Collection

miniature railways to the masses - well, at least the numerous middle classes with large suburban gardens rather than the landed gentry and owners of large country estates, the previous province of 10¼" gauge. The system was introduced under the Tri-ang Minic

The Tri-ang Minic locomotive as portrayed in a sales brochure of the time. Pat Hammond Collection

Narrow Gauge Railway (TMNR) label. Motive power consisted of a locomotive which weighed in at 2½ cwt, was over 5' long and powered by a GEC ¾hp series-wound DC traction motor fitted with a chain drive to a lay shaft which chain drove the two axles. Later locomotives boasted two motor bogies, jointly rated at 1½hp with a top speed of 7mph.

The locomotive bore more than a passing resemblance to the then new Southern Region E5001/Class 71 electric Bo-Bo, at that time in charge of the Region's prestigious 'Golden Arrow' London-Paris service. Carriages consisted of Pullman cars based on the ECML Metro-Cammell sets of recent design in traditional umber and cream livery with names such as *Emerald* and *Topaz*. The loco was EMU stock green



TMNR Pullman car taken from sales literature. Pat Hammond Collection

with 'Golden Arrow' regalia. A simplified coach consisting of bogie flat and three mild-steel tubular chairs with oaken slats and a front safety frame was introduced later.

The locomotive frame and that of the carriage bogies was ³/₁₀" plate steel strengthened by angles whereas the Pullman bodies were of a two-piece moulded reinforced plastic. Originally





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Latest from Minic is a model railway with a big difference—a garden railway you can actually sit in and drive. Operation is fully electric. The realistic model 'Golden Arrow' engine and Pullman coaches are sturdy, well-sprung and comfortable; and each part is thoroughly safety tested at every stage of construction.
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MINIC LIMITED, CANTERBURY, KENT

Tri-ang Minic advertisement from 1963. Pat Hammond Collection

the system, for private use, could be controlled from the locomotive and also trackside using a 220/250v mains supply transformed to 40v DC. The two rotary switches and 'power on' indicator lights, together with the dash panel, usually disappeared if the system was in public use.

The sectional track was supplied in 6' straights and 12' and 18' radius curves which consisted of 16 gauge galvanised steel pressed into flat bottom profile in exactly the same manner as pre-war Hornby O gauge tinplate rail. Left and right-hand points for use with 12' radius curves and a right-angled crossing were also available. Track units were located with internal fishplates secured by 'U'-bolts and fitted to hardwood sleepers, ballasted with a recommended 2" of granite chippings packed level.

The system was basically a large scale Tri-ang two-rail set up with cast

iron wheels fitted with Delrin insulated bushes and steel axles located in Delrin



Testing the Tri-ang Minic narrow gauge railway outside the Canterbury factory. Pat Hammond Collection

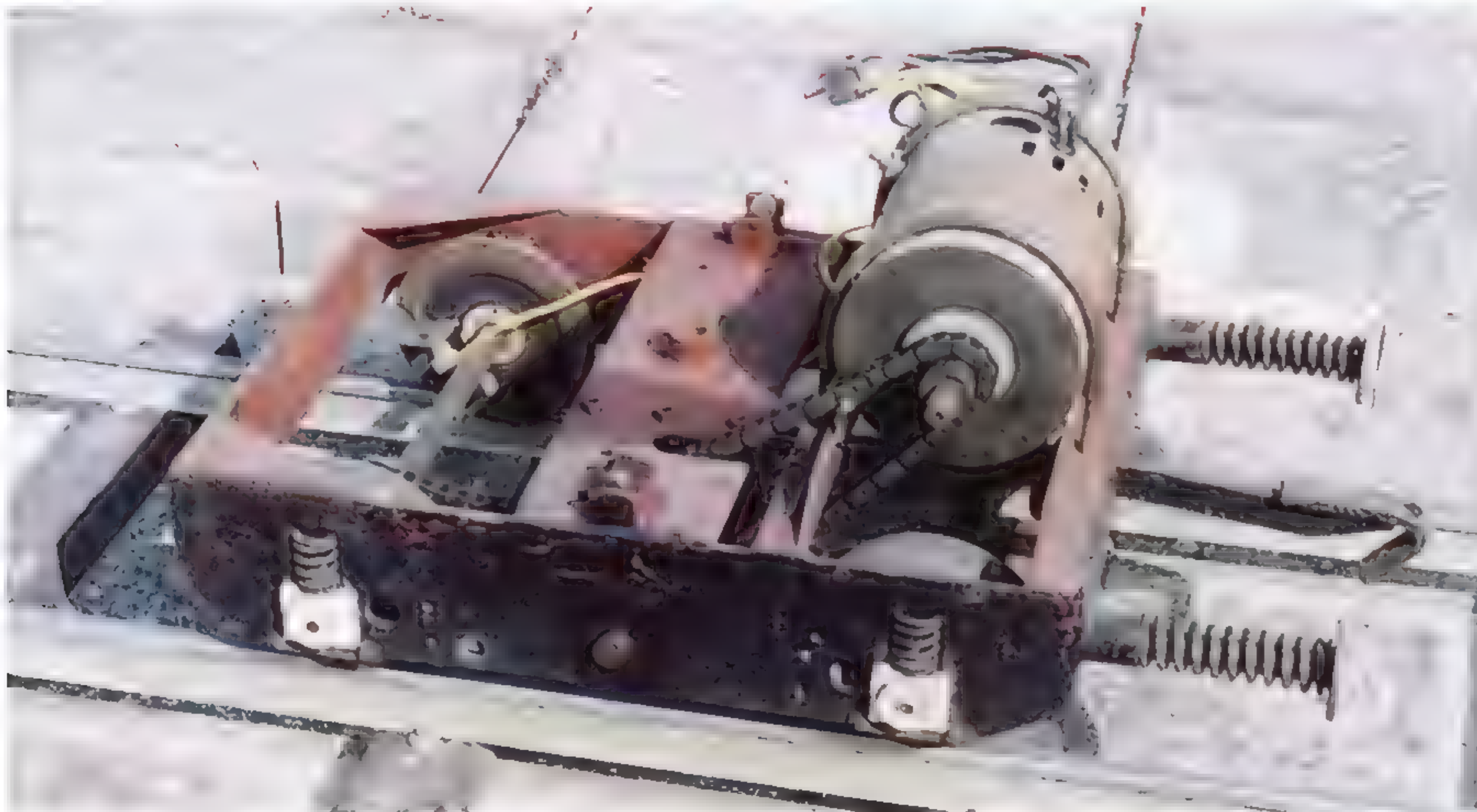
bearings in the axleboxes - a system common to both locos and coaches. Power was picked up by wipers on the wheel treads of the motor bogies. As the output of the twin-motor bogied loco was 40 volts at 40amps DC, a built-in circuit breaker was fitted as standard, thus ensuring the system was totally safe.

A 10¼" gauge version of Tri-ang's *Nellie*, both mains and battery-operated, plus a standard five-plank open wagon were developed up to prototype stage, both using the four-wheel chassis illustrated. However, the short 18 month production life span of the TMNR system did not allow for this next phase to be marketed. Most of the sets ended up being run by showmen at fairs and, as spares had run out by 1966-7, were mercilessly run into the ground, although many lasted an impressive 20 years, being slowly patched up and modified. Butlin's Holiday Camps Ltd managed to purchase the lion's share of the spares from the ailing Tri-ang/Minic group which they kept at their central stores at Pier Road, Littlehampton, Sussex.

By carefully reconditioning and cannibalising existing stock, they kept their various camp systems working for many years - long enough for several of these set-ups to be purchased privately for preservation. The example illustrated is one such system which arrived in East Kent via the ownership of the Rev. R F Jackson of Preesall, Lancashire.

Downfall

I'm most intrigued by the system's failure. This was partly due to the parent company's problems, partly the cost of the system - it wasn't that cheap! And partly to the social-political situation of



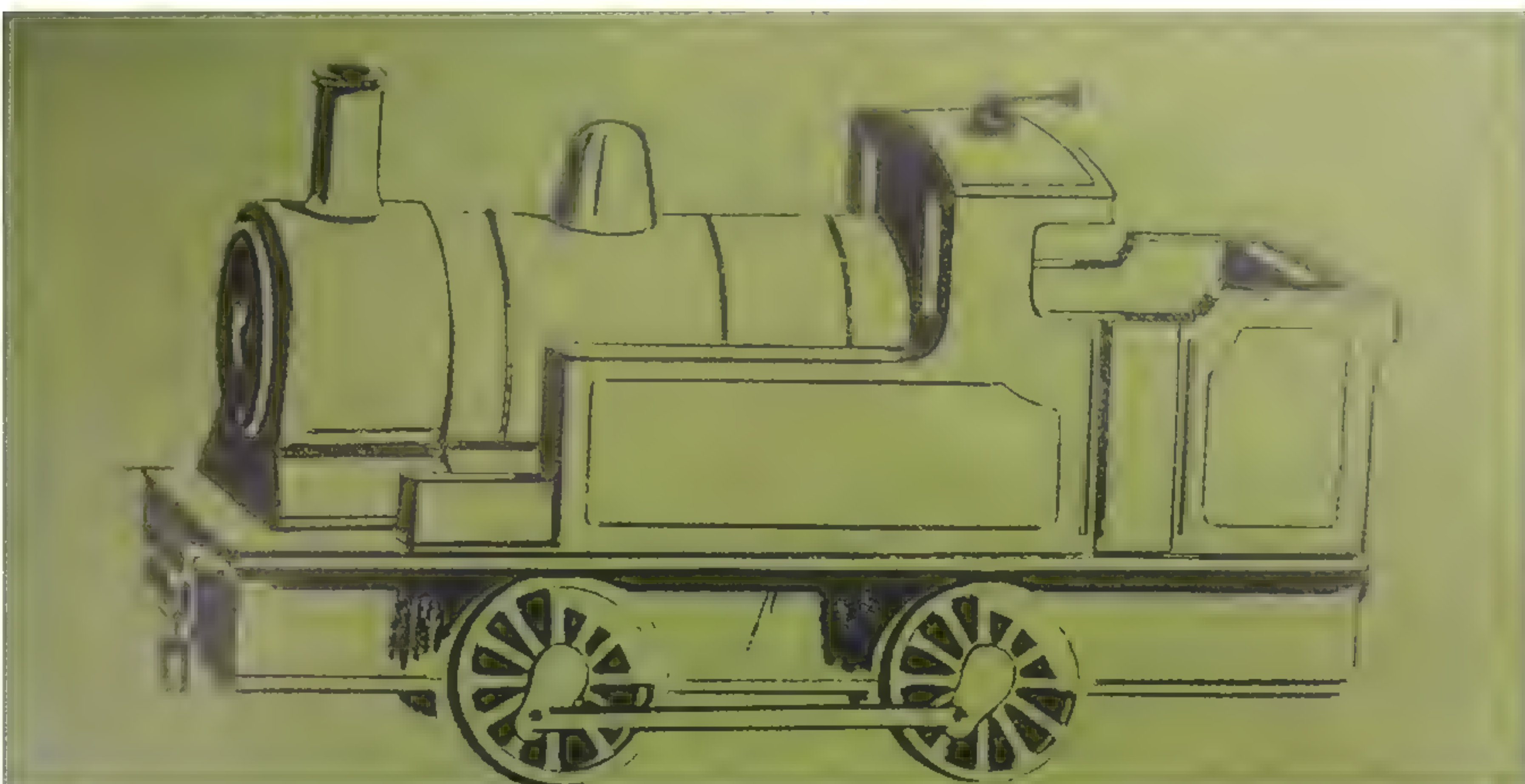
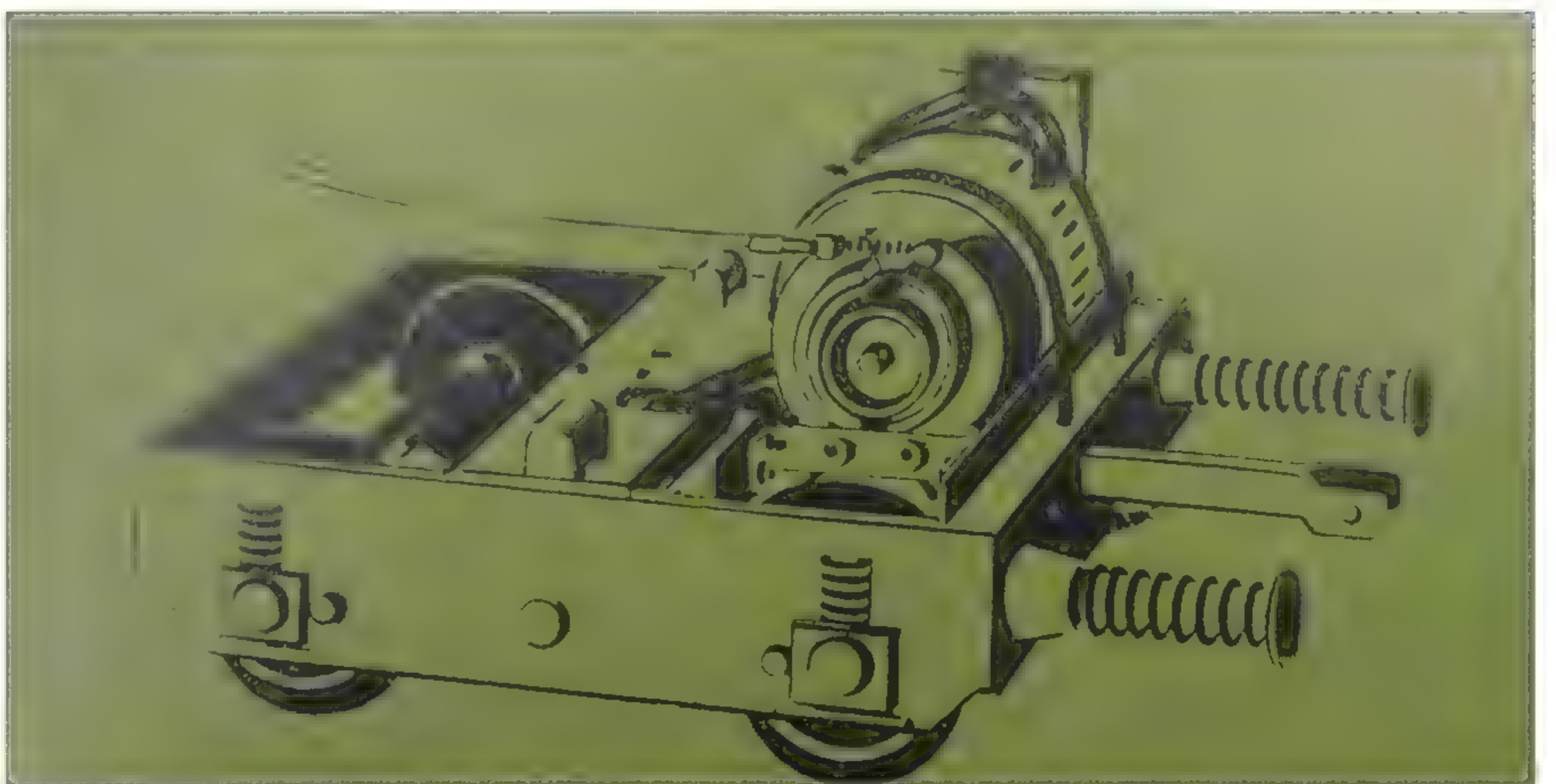
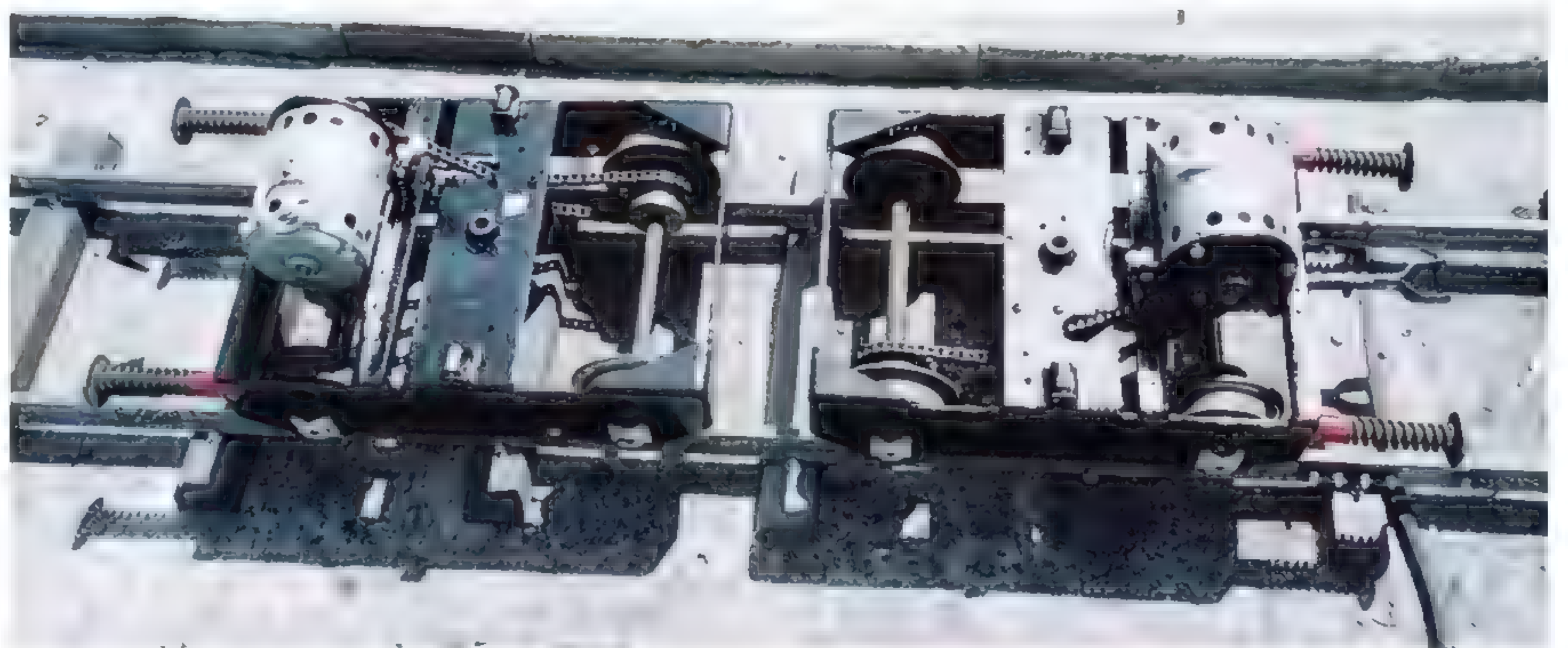
Motor bogie in original condition. Robert E Vickery

the time, as there had been a change of Government in 1964 and the middle classes with large suburban gardens weren't at all secure under the Wilson regime whatever the 'spin' and 'gloss' we associate with the 1960s at this distance!

The system, although it appeared successful, was flawed in concept in that TT and OO technology can only be stretched so far. There were problems with the wiper pick-ups and the alloy track-to-cast iron wheels electrical continuity. The insulated wheel bushes and general springing left much to be desired, in particular on a 1½hp locomotive capable of 7½ mph. I'm sure that, had the system survived longer, these problems would have all been sorted out. There again, Rovex/Tri-ang-Hornby Railways have a history of being

RIGHT: Catalogue illustration of the motor bogie fitted to the E5001 locomotive. Pat Hammond Collection

BELOW: The proposed - but never manufactured - 0-4-0T locomotive based on the OO gauge *Nellie* tank. Pat Hammond Collection



forced back to their 'core' business of OO railways - despite expeditions into TT, O and latterly gauge 2 live steam - and even dolls at one time - which appear to have lacked both commitment and long term financial success - from the outside at least!

A restoration project

The May 1963 issue of the *Railway Modeller*, page 122, carried an advert for the new Triang Minic 10¼" Narrow Gauge Railway system. The loco was based on the Southern Region E5001

BELOW: The restored motor bogies, re-motored and painted. Robert E Vickery

locomotive and the coach on a Pullman carriage. It came complete with prefabricated track and a 40 volt DC power pack delivered in a container to your house!

At this time I lived in a house with a small garden, but a move in the early '70s gave me an area of 30' x 120' to utilise. The only problem was that I did not have any equipment. Whilst on holiday in Blackpool, a chance remark to the late Norman Dale (of EM fame), led to an introduction to the Reverend Bob Jackson, Vicar of St Oswalds at Know End in Lancashire. He eventually sold me one loco and one Pullman car,



The Tri-ang Minic locomotive after 40 years of neglect and use. Robert E Vickery

which were transported back to Kent.

Plans were drawn up for the garden layout and the track was laid with Cromer White components. A power pack and control panel were constructed from a milk float charging unit. This ran well and gave me many hours - and years - of enjoyment after lots of modifications to the pick-ups had been made.

In 2000 it was necessary to replace all the wooden sleepers, as they were over 25 years old by now, with re-cycled plastic sleepers, that were made from reclaimed plastic bottles and containers, while the rails were re-fixed using anti-vibration roofing screws from Screw Fix. About this time the GEC 40v series-wound motors began to give operating problems due to the rubber insulation failing on a regular basis. Despite being re-sleeved with car heatshrink tubing, problems persisted, so it was decided to replace them with two 24v DC permanent motors as they were identical in dimension. A new 24 volt transformer, purchased from Parkside Railways of Nelson, Lancashire, was also fitted and the power pack output reduced to 24 volts and all was well, or so I thought. How wrong can you be!



Re-fixing the restored body to the chassis. Robert E Vickery



Rebuilding has started - the restored chassis sits on the motor bogies. Robert E Vickery

Now it was time for the control switches to start to play up due to the fact that 24 volts DC at 50 Amps requires large sprung-loaded contacts. They still spark, and sometimes fail in the closed position and weld together! It came to a head when a switch did fail and welded together on full speed and the master switch on the power pack had to be thrown. After enquiries to get quotes for suitable switches it was decided to go fully electronic. Parkside Railways catalogue was read again and as they produced suitable controllers, a phone call was made and a visit to Nelson arranged to see the controllers and panels so these were purchased.

I decided that as it was over 40 years since the locomotive and coach had been made, a body-off overhaul was

needed, both for the loco and the coach as the base plates and side stiffeners were badly corroded.

So every item was removed, all pop rivets drilled out and the base plates sandblasted. New angle strip was welded to the sides and red oxide primer applied. The red finishing colour was called 'Post Office red' on the original equipment but, as this is a 'trade name', the replacement (same shade) is called 'scooter red'! This was purchased and all steelwork given two coats of paint.

The next problem was that exposure to the elements (my items came from Butlin's at Phwelli and had been well used), had caused cracks in the bodies which had been plated over and



All that remains of the Nelly/Polly 0-4-0T prototype locomotive. M C Shaw



Christopher Shaw follows his mother's interest in large scale miniature railways by road testing a Tri-ang Minic electric locomotive and Pullman car. Michael C Shaw

U.K. RETAIL PRICE LIST

20th JANUARY, 1963

Triang

MINIC

NARROWGAUGE RAILWAY

TM

NR

Catalogue Ref	DESCRIPTION	Retail Price	Purchase Tax	Total Price Ex-Works
TMNR1	GOLDEN ARROW LOCOMOTIVE (Mains operated)	£ 1 0 0 93 0 0	£ 1 0 0 17 0 0	£ 2 0 0 110 0 0
TMNR2	SHUNTING LOCOMOTIVE (Accumulator operated)	66 15 9	12 4 3	79 0 0
TMNR11	PULLMAN COACH	41 8 5	7 11 7	49 0 0
TMNR12	OPEN TRUCK	7 12 0	1 8 8	9 0 0
TMNR101	STRAIGHT TRACK 6' LENGTH	1 11 8	5 10	1 17 6
TMNR110	CURVED TRACK (8 Curves make a half circle of 36' diameter)	1 13 4	6 2	1 19 6
TMNR111	CURVED TRACK (6 Curves make a half circle of 24' diameter)	1 12 6	6 8	1 18 6
TMNR141	BUFFER STOP	2 10 8	9 4	3 0 0
TMNR183	100' OF 3 CORE MAINS CABLE (for connection between mains plug and Power Unit)	2 10 8	9 4	3 0 0
TMNR184	20' OF 2 CORE CABLE WITH CONNECTING TAGS (for connection between Power Unit and Track)	12 8	2 4	15 0
TMNR185	TERMINAL BLOCK FOR TMNR. 183/4	6 4	1 2	7 6
TMNR186	PLASTIC OUTDOOR COVER FOR TMNR1 and 11	1 1 6	4 0	1 5 6
TMNR188	PLASTIC OUTDOOR COVER FOR TMNR 2	19 0	3 6	1 2 6
TMNR189	PLASTIC OUTDOOR COVER FOR TMNR. 12	12 8	2 4	15 0

TRI-ANG MINIC TOYS ARE BUILT BY MINIC LIMITED, CANTERBURY, KENT

MINIC LIMITED reserve the right to vary the designs, specifications and prices of any item without notice

HP 292/9 1 63 10M

riveted. So these were all drilled out, removed and cleaned up.

I lost count of the different makes of glue, adhesive and filler that I tried. All failed as the plastic felt soapy, possibly due to the original release agent. One day I happened to mention my frustration of all the failures I had experienced to my son, who is a farrier by trade. He did not say anything, but went out to his mobile workshop and came back with a two-part epoxy glue gun. This 'Super Fast Equithane', he informed me, sticks horse shoes onto horses hooves. So the last offending

glue was removed, cracks cleaned, filled with 'Equithane' and clamped together. Success at last! It worked a treat. However, a word of caution. As it is used on live animals it dries in 20 seconds!

Also at this time I decided to use metric nuts, bolts and rivets, etc, to reassemble the locomotive and coach. I now refitted all the items and replaced the pop rivets. All windows and side lines were repainted and grab handles refitted with new locking washers.

As all the original logos and transfers were badly damaged and unusable, my brother scanned them on his computer and produced new artwork. This was printed full size, trimmed and then encapsulated in a laminating machine and refitted. A new Union Jack and French Tri-colour were purchased and fitted. Job finished! (see photo).

Some visitors have queried the size of the motors at 1 HP each, but as the loco is approx 3 cwt (sorry, I am old) plus a driver and two large 85 AH batteries with a coach and children they need to be.

It has been a very rewarding exercise,

The 1963 price list. Pat Hammond Collection


MINIC
GO BY TRAIN...

Lots of fun - and trendy hair styles - are promised in this 1960s catalogue. Pat Hammond Collection

I still have the old GEC 40v motors so all parts have been kept. The batteries used for traction purposes last for about five hours running time, the best ones

Useful addresses
Parkside Railways

Unit 2E + 3J, Valley Mills, Southfield Street, Nelson, Lancs. BB9 0LD.

Tel: 01282 613 646

email: pselectronics@btinternet.com

available locally come from the disability shop in town. I have now started work on the original prototype four wheel chassis (see photo) that came from the factory at Canterbury as a present when it closed, from Colin Davidson the Production Manager. An SR Utility bogie van on a replica base and bogies will be the next project.

So I have plenty still to accomplish, but at least the TMNR Railway was running again, although unfortunately not in time to celebrate its Ruby Anniversary! But fully restored, hopefully it will last another 40 years! Many thanks to Parkside Electronics and Railways of Nelson, Leyland Model Engineering Society and my family for all the assistance and encouragement.



The fully restored Tri-ang Minic locomotive and Pullman car. Robert E Vickery

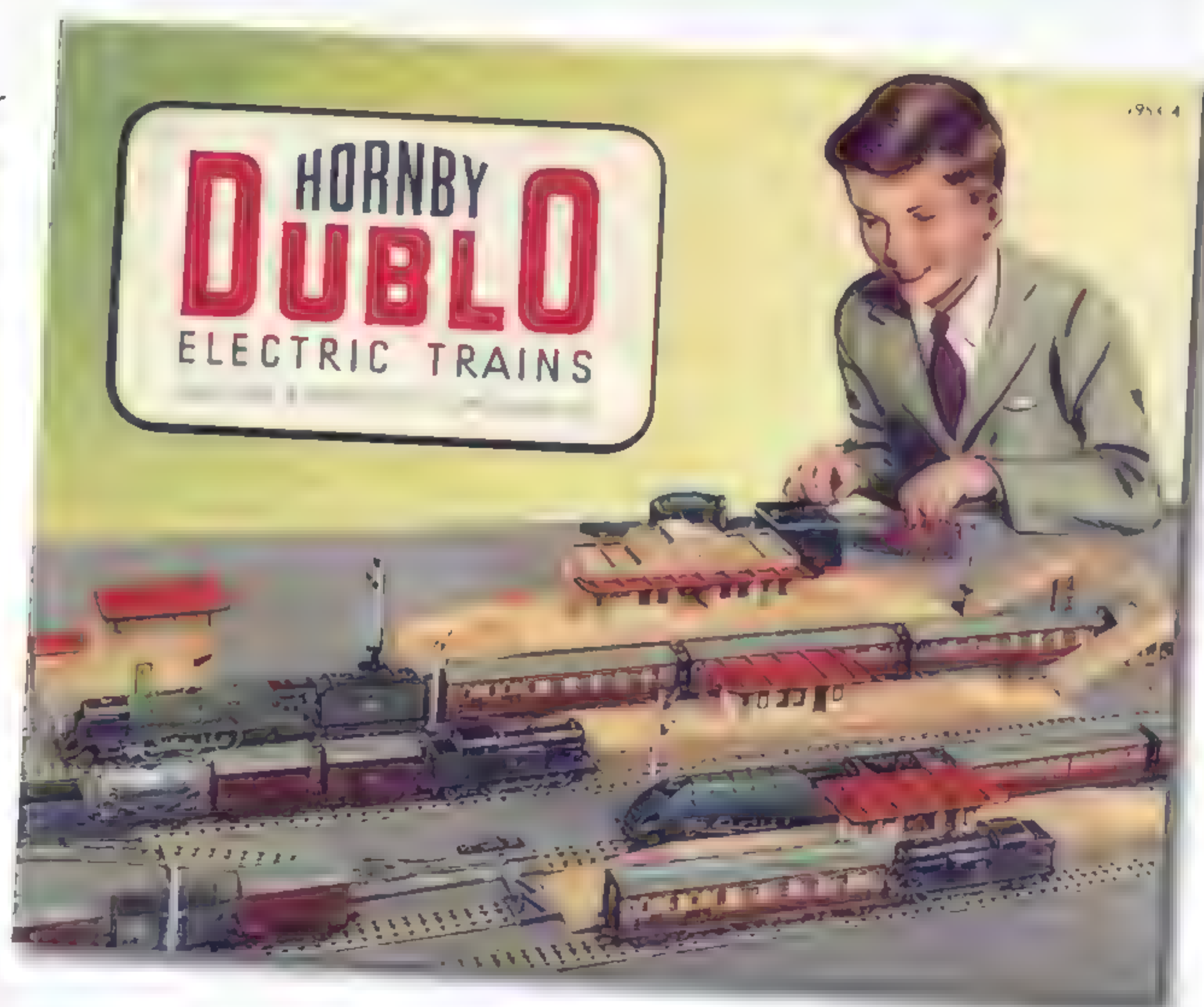
Dublo double take

Seems familiar? Allan Downes built this Hornby-Dublo lookalike in 7mm scale. Photography by Ray Lightfoot.

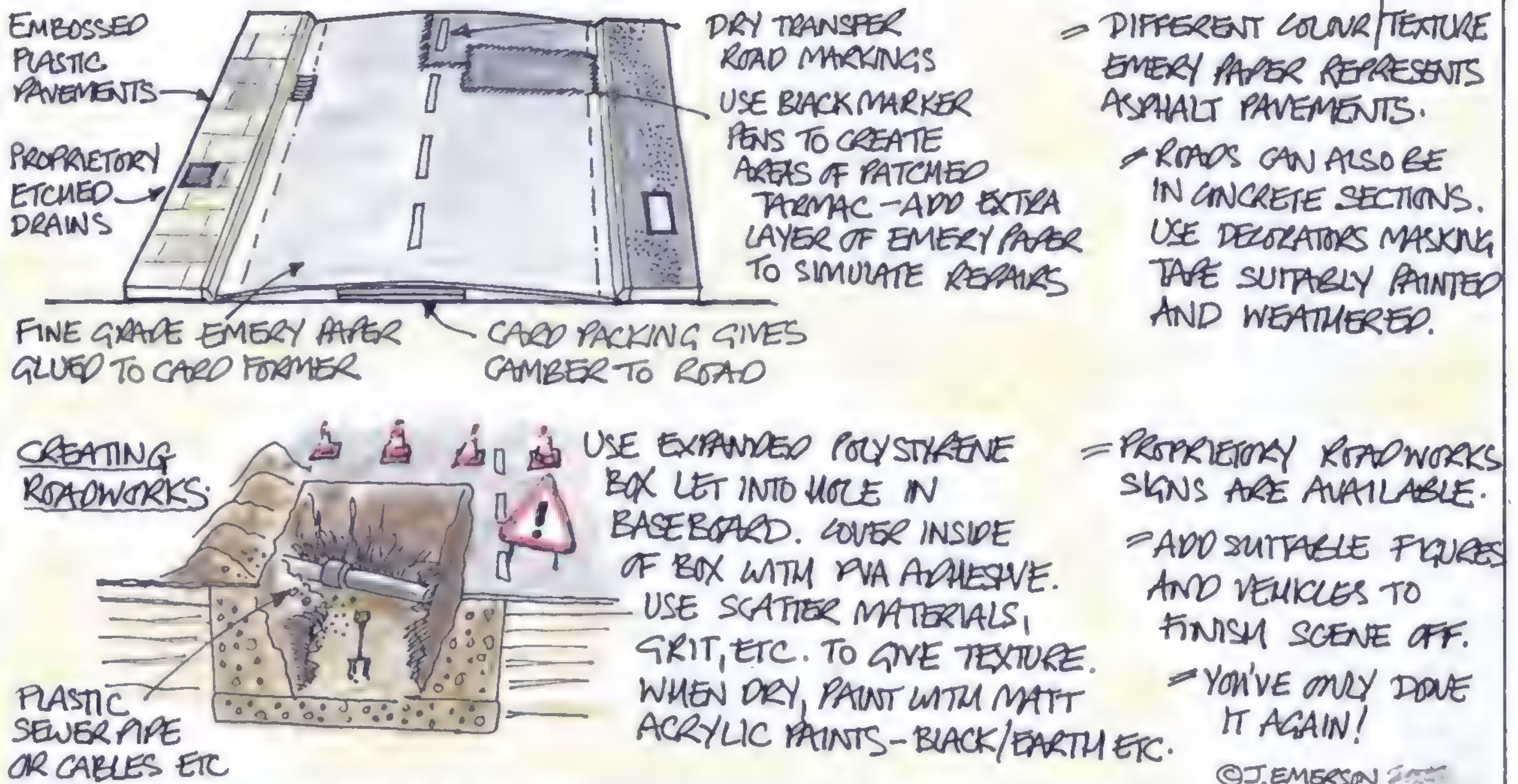


The orange-roof Hornby-Dublo signal box will be very familiar to enthusiasts of a certain age. Cast in aluminium, the catalogue number was D1 and it would have cost you 11/9 in 1953 (almost 59p). Mint examples cost a lot more than that these days, while the rare green roof example will set you back £120-£150.

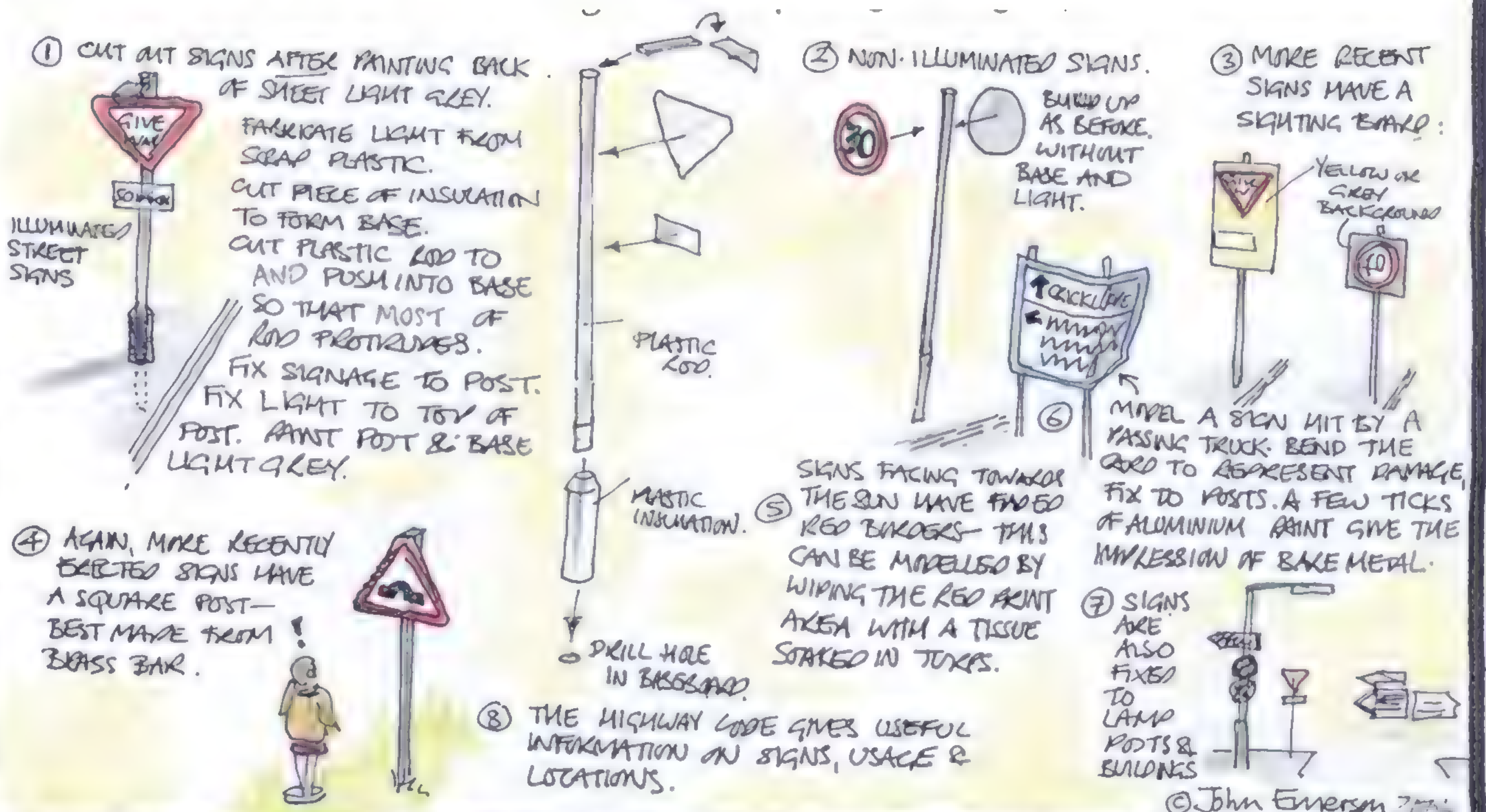
Allan Downes built this 7mm version for a layout project, although it now resides in the collection of Peter Marshall. It also appeared briefly on the Editor's Gifford Street Sidings layout at Warley last year.



On the road again! Sooner or later, somewhere or other, roads will form an important part of your layout's scenic work, so it's important to get them looking right. Realistic roads are quite simple to produce using fairly basic and easily available materials, for example fine grade emery paper for road surfaces and pavements from embossed plastic sheet - they're even available in packs of self-adhesive card. Follow these easy steps.



Right - now you've built your roads on the layout, now you'll need some road signs. Modern life seems to be full of visual pollution in the form of oversignage on roads, in city centres, etc. There are now several commercial sources for signs, ranging from printed card - I used to produce a 'Lineside Look' range at one time - to the new plastic mouldings just released by Hornby in their 'Skaledale' range. You can also cut them out of the Highway Code or - if you now how - scan them into your computer (surf the web for signs and posters) and print them out in glorious colour! With a little care, they can be made to appear much more lifelike. Be streetwise - a walk down your local High Street can give you loads of ideas!





London United Type 'WT' tram passes the railway station.

Route 26 to Kew Bridge

Gerald Warner introduces this 4mm slice of London life.

'Kew Bridge - all change, this end off the car please!' shouts the conductor. We have arrived at the end of the line on LCC E1 tram No.583 on route 26 from London Bridge to Kew Bridge. This tram is one of two painted blue, on which we believe at the time of the change from tramways like LUT & LCC to the London Passenger Transport Board, the Charlton Works tried perhaps to influence the LPTB authorities with their own paint scheme. Needless to say it never caught on. It is 1933 and there are moves to abandon trams in this area of London in favour of trolley buses.

When we get off, the Inspector can be seen waiting to check we have arrived on time. Stepping on to the pavement, and just missing one of those new motorbuses on route 27E to Hounslow having come from Finsbury Grove via Chiswick, we watch whilst the conductor turns the trolley pole ready for the return journey. In the centre of the road is a magnificent fountain together with water



Mums with prams chat outside Brunswick Villas as the Blue Brentford twins sit next to Boulton, the cat.

A general view from Kew Pumping Station looking towards Kew Bridge railway station.



troughs for the horses. At the trough the horse-drawn removal van of J Goddard from Brentford stands for the two horses to drink before continuing their delivery of goods to the owner's new address. Strolling down the pavement we pass Prince's Hall with its gardens for the gentry to relax. The pigeons are feeding on the grass, whilst the barmaid from the Express Public House has slipped out to meet her young man in the corner of the gardens. It's time to cross the road now to the South Western Railway station of Kew Bridge, and outside we bump into seven-year-old Derek who is tram spotting. He is doing well here with a tram passing every few minutes. Inside the station we can see a man buying a ticket and through the two windows can be seen a map of the South Western Railway and also a picture of a Stroudley 'Terrier'.

Walking past the station we can see some bicycles against the fence next to the newsagent and tobacconist shop owned by John Payne. Next-door is a café and restaurant. A horse-drawn delivery van is pulled up at the edge of the pavement with supplies for the café and the milkman is delivering milk whilst his horse and cart waits patiently at the kerbside. The next shop is Montague Kent & Co., House Agents, where a selection of houses for sale can be seen in the window. Above Montague's there is a dentist on the first floor.

At the end of the block is the London & South Western Bank Ltd. Before crossing the entrance to the station yard, we wait for a Sentinel steam lorry to pass having just delivered some beer. The next building is the Express public house. As we enter the front door

the Bishop and his 'niece' are coming out. I wonder what they have been up to? We are greeted inside by the landlord, Mr. Aldington, and join the other customers for a pint of Hawkes beer. It is interesting to note that the same family has run it since 1880 right up to the present day.

Suitably refreshed we depart and carry on past the Rolls Royce breakdown truck, belonging to a garage in Barnes, which is parked at the roadside outside the furniture shop. Between the furniture shop and Brunswick Villas is a passage that is a shortcut to the Pumping Station, but we are not going that way today. On top of the three terraced houses can be seen the lion and on the steps are the 'Blue twins' of Brentford with Boulton, the pumping station cat. On the pavement two mothers are pushing their prams and in one is Ron, who is about three months old and screaming his head off (he denies this, he says he is just too excited at seeing the trams). Simon, the pie man, is carrying a tray of pies on his head as we pass the last house before crossing Green Dragon Lane. Watch out for the steam lorry carrying a length of replacement tram rail.

Across the road we can see the horse bus coming round the fountain on its way to Ealing from Kingston and also an open top motorbus on its way to Mytchett Green.

Layton House stands on the corner and looks derelict, but next to it are 'The Plough' and 'Waggon & Horses' public houses. Outside dogs do what they have to do against the lamppost. In the distance can be seen the gasworks in Brentford.

It's time now to go down Green Dragon Lane into the Pumping Station. As we go I hear someone ask in the street: 'What's that huge chimney for?' 'It's not a chimney, it's a stand pipe to maintain the water pressure when the beam engines pump water to West London' is the answer.

The layout

Well, I hope you enjoyed your tour of the Kew Bridge Terminus which, just to confuse you, is actually in Brentford. If you wish you could join us in the Kew Bridge Steam Museum where we meet regularly to discuss all aspects of trams - models and full size - and also to build trams to run on the Kew Bridge layout.

It's been a lot of hard work sometimes but very satisfying, though as the months have gone on, the creation of the layout has begun to be rivalled by the pleasure we have derived from just being together and it has been a lot of fun. Would we do it again? Possibly - although not yet! But how did we build it?

In 1998 we had just seen the prize-winning model of a London United 'T' class tramcar, built by one of our members, when a voice was heard to say: 'Now you've built the tram, where are you going to run it?' The answer was

soon forthcoming from our leader: 'Listen chaps, we have a centenary coming up in three years which is right outside on our doorstep, so why don't we build a layout to celebrate?' We are the Thames Valley branch of the Tramway and Light Railway Society, and we meet from time to time in the Kew Bridge Steam Museum. The centenary mentioned was of the first electric street tram in London, which ran from Shepherd's Bush to Kew Bridge at 7.00 am on April 4, 1901. So here was our excuse to run this tram and to build a club layout at the same time.

So that was decided upon and we set forth to plan it. Because our first tram had already been built, three decisions had already been made for us. It was to be OO gauge and two-rail electrification with dummy overhead.

We had an Ordnance Survey map of the terminus in late horse tram days and an overlay of the area as it is today, so it was

possible to see if there were any changes to the roads and buildings. We went out and photographed the buildings that still existed. First ideas were to have a 6' long board with a 2' square board attached to the front, to house the terminus and the approach to the bridge itself. This was rejected as we thought it would be unpopular with exhibition organisers, so we finished up with a plan for a board 7' long by 2' wide (actually two 3' 6" boards bolted together). This was enough for us to model the north side of Kew Bridge Road from the railway station to the Water Works (now the Kew Bridge Steam Museum), if we left out the block of houses that had been demolished and replaced by a new block of flats. We kept the buildings on the south side to a minimum. It was at this point that I went out to measure the ground plans of the remaining buildings. At the same time the rest of the group were busy collecting pictures in books and postcards from which the buildings could be modelled.

We finished up with a plan for a double oval of track, representing the line coming from Hammersmith and continuing as the extension to Hounslow and Hampton Court, with the double-track of the original terminus branching off outside the railway station, over a scissors crossover, to terminate by the fountain/horse trough at the head of the bridge. There was a crossover outside the Water Works and two 'round the back' behind the backscene.

We had spent six months on deciding what to do, and now with 30 months to go to our deadline it was time to start building. Volunteers came forward to take on various parts of the layout, some of whom had never undertaken anything like this before. Baseboards, tracks, electrics, houses, streets, street furniture and, of course, trams all had to be built. Baseboards were made in the usual way using a 3" x 1" timber frame covered with chipboard. Next, all the copper-clad sleepers were laid followed by code 80 bullhead rail soldered in place with a nickel silver strip to form the groove. A wiring diagram had been drawn up and the track was gapped accordingly. As we laid the track we tested it using a pair of BEC truck bogies with the 'little black motors' removed. These, under a piece of 1mm plywood with holes drilled to give truck pivot points for a 'W' car, and a Feltham were pushed around by finger power, checking that the wheels, particularly on the scissors crossover, would negotiate the gaps. Where wheels dropped into gaps, we plugged the bottom of the gaps with balsa wood



An overall view of the impressive Kew pumping station.



'Poppy', an experimental tramcar and the prototype for the Feltham tramcars, passes the railway station.

to support the flanges of the wheels. Several points were required, so to start off we invested in one SMP 7" radius tram point to see how complex its construction was. It looked straightforward so enough rails were purchased for the double continuous oval with three crossovers

and a double spur with a scissors crossover that we made ourselves. As in railway practice, we celebrated the 'last spike', when all the rails were in place.

The months passed and we realised with a year to go that we had only laid the track, so our monthly meetings

changed to weekly. Gradually we began to see some progress. Baseboards built, track in place and tested, then came the electrics. The undersides of the baseboards were wired and a control panel was built to form a bridge over the tracks behind to backscene. The control panel also bridged the gap between the two baseboards and provided the electrical link between them. Two feedback controllers were used with an array of switches for all the sections to allow us to run a reasonable tram service with up to seven or eight trams in view at any one time including reversing cars into the terminal stub. Once the track was complete we could set about the road surface. To the best of our knowledge this was woodblock, continuously over the whole surface, so a supply of 1mm ply was obtained, cut to shape and then many happy weeks were spent quietly going potty over the task of scribing 3mm x 1mm rectangles in the ply to represent the woodblocks. The blocks should have been end grain upwards, but there are limits! (I am told that there are about 10,000 of them on the layout). Pavements were cut from 1mm ply and covered with self-adhesive paving slabs, but not until we had put in the traction poles for the overhead.

We showed our proposals at the 1999 Festival of ModelTrams and were surprised



A London County Council 'B' Type tram passes a London United open-top tram near the pumping station.



Horse-drawn buses, motor buses and trams compete for passengers.



London United 'U' Type tram passing the The Express public house whilst a Sentinel steam lorry emerges from a side road having delivered beer to the pub.



Tram No. 583
has arrived from
London Bridge whilst the motor
bus is on Route 27E, to Hounslow. Note the
fountain and water trough in the foreground.



London United 'W' Type tram passes Brunswick Villas.



Horse-drawn bus and Type 'B' motorbus pass outside Brunswick Villas.

to receive a letter from another modeller to say he had produced castings of LUT pole bases and rosette rings. He offered to produce our traction poles, an offer gratefully accepted. Next, the cross bars were made by filing a piece of solid copper wire into semi-circular shape and then wrapping it round the traction pole and soldering it in place. Wrought iron scrollwork was then carefully soldered in position. We left the finials off until the very last job, as the points look very sharp and dangerous. Now we could start drilling the holes for the poles. We had fun ensuring the drill was absolutely vertical by having two 'sighters', at 90° to each other, looking like cricket umpires. Then the soldering started again, on span wires, ears and at last, the trolley wire. This was the period when the verb 'to twang' was coined. 'It's twanged round the back,' meant a soldered joint had failed, but one of our members had devised a block of wood to support, in a groove, the trolley wire while it was being soldered to make sure it stayed in place. Finishing touches were put to the overhead at Christmas 2000 on my dining room table (with many thanks to my wife for allowing this intrusion). Also on the same day we applied the first of the fixed scenery to the boards in the shape of pub forecourts, side road and station forecourt. Almost everything else in the scenery line was done as homework.

After measuring the fronts of all the buildings and taking many photographs,

we drew some plans and counted the number of brick courses to ascertain the height of each one. These were then given out to various team members to take away and return with finished buildings.

When we read the boards at the railway station entrance showing a list of places served by the LSWR, we demurred at the inclusion of Swansea, but the builder said he grew up there, so it stayed. No one has yet complained! Extensive use of 'Plastikard' covered with embossed brick sheets was used to construct this building. The bank block is built from card, complete with shop fronts and covered with brick paper, with windows produced on a computer. The Express public house is complete with the landlord pulling pints behind the bar, and the customers enjoying themselves can be seen through both windows. The pair of houses next to the Express and also 'Brunswick Villas', the group of three houses with a lion on top and the house on the corner of Green Dragon Lane are also made from 'Plastikard'. The engine house and standpipe of the pumping station are made from 1mm plywood with bricks scribed on. The terrace houses opposite the water works are modified Metcalfe card kits while the fountain and horse trough are made using 'Plastikard'.

To disguise the fact that the straight line of the tramway which runs between Chiswick and Brentford did not fit on our baseboards, we curved the track at each

end to disappear behind a backscene. On the backscene there are glimpses of Brentford gasworks, the waterwork's filter beds, the railway goods yard and Brentford Market. When this was in place, around June, 2001, together with all the other scenery, the model began to look a little like Kew Bridge Road at last. We had previously populated the streets with people, dogs, babies in prams and a variety of other figures.

Buildings started to arrive from their makers and fit into place and just two days before the exhibition we saw everything in place for the first time – what a relief!

Kew Bridge is set in the period 1901–1935 when the system in this part of London changed to trolley buses. Many different types of tram ran between Shepherd's Bush, Kew, Hounslow and Uxbridge and to represent these there are models of 'T', 'U', 'W', 'Z' types, together with 'Poppy' (an experimental car prior to the introduction of the Felthams), and LCC E1s. The open top cars represent those that ran from 1901, and covered top cars ran later up until 1935. Different groups of people are shown, some in Edwardian clothes and some clothed for the latter period. It is a tradition that we try to include ourselves where possible in the layout and to that end two of our members are represented. Ron, our leader, is about three months old and is being taken out in his pram, and Derek is about seven years old and has just arrived at Kew Bridge railway station to do some tram spotting.



A Rolls Royce breakdown truck stands outside the furniture shop.



An LCC 'E1' tram passes a motorbus on route 27E outside the bank.

EWS wagon survey

Nigel Burkin considers what's available ready-to-run and in kit form.



Modern EWS ballast and spoil trains are composed of reliable, modern air-braked wagons. This short train, photographed at Westbury in June 2003, consisted of a mixture of eleven wagons, all of which are available as ready-to-run models. The exact formation is: MHA/MHA/MFA/MHA/MHA/ MHA/MFA/MFA/MTA/MTA/MTA/MTA.

As locomotive-hauled trains have declined in number over the last few years, many D&E modellers interested in the current scene have turned their attention to freight operations. There has been a significant increase in the volume of freight hauled on the national rail network resulting in the introduction of new high-capacity wagons and a new lease of life for many older wagons which may otherwise have rusted and decayed in the Engineers' fleet. One frequently asked question from newcomers to the hobby is how to convincingly model a fleet of wagons representing this post-privatisation era? Well, here are a few ideas.

The key to this question is research and I am using my EWS collection to demonstrate the various methods and resources you can use to accumulate your own collection and some of the pitfalls that you may encounter. Remember, research can be fun, however, it can take on a life of its own and seeking more and more detail can get in the way of actually building the models themselves - which is the ultimate goal, of course! So be prepared to make mistakes and to compromise a little when appropriate. The pragmatic modeller generally



Thanks to Fox Transfers, it is possible to simply renumber and customise the superb EWS/Thrall BYA/BRA covered steel wagon. A total of 260 BYA (966001-260) and 50 BRA (964001-050) were constructed at York. This trio of BYA models are weathered with a bleaching effect applied to the original paint finish which has been patch-painted to represent repairs. The underframes and bogies are dusted with track colour and the wheels painted in a rust colour.

achieves the most and models can be updated and upgraded at a later date as more information and better detailing components become available.

The largest fleet of wagons operated by a private freight company is owned by EWS which is made up of a variety

of air-braked wagons inherited from the acquisition of the three train load companies - Mainline Freight, Transrail and Loadhaul - together with those acquired from the subsequent purchase of Railfreight Distribution (RfD). EWS quickly recognised that much of the

fleet it had inherited was either in need of serious overhaul and repair or failed to meet the needs of its customers and changing patterns in freight haulage such as intermodal operations. The last ten years has seen a significant change in the former British Rail wagon fleet and the introduction of many new wagons under EWS ownership, constructed at York by Thrall Europe and Greenbrier in Poland.

So what does this mean to the modeller? Newcomers to the hobby may find the huge variety of wagons that they observe from the lineside difficult to reconcile in model form. Recognising what you see on the lineside and being able to identify it as a possible modelling project is not always straightforward as more experienced



Bachmann created a CEA covered wagon by adding a moulded plastic top to its HEA model to represent the tarpaulin sheet and mechanism. This particular example has the original underframe which has since been superseded with a re-tooled version with refined detail and NEM coupling boxes. This model has been customised with Inter-City Models air brake pipes and weathering applied with an airbrush.



EWS introduced a small number of CSA powder tanks (876057-064) by purchasing and refurbishing a handful of former PCAs once used for cement traffic. I used the Hornby PCA, shaping the 'V'-shaped tank using 'Milliput' and careful filing to re-profile it, fitting a new filler hatch and etched walkway from A1 Models. The shape of the buffer beams has been changed, clasp brake detail and new airbrake details added. Transfers are adapted to suit the wagon.

modellers can appreciate. However, with careful research and simple modelling techniques, it is possible to create a convincing fleet of wagons in 4mm scale using kits, detailing components and a growing range of detailed ready-to-run models.

Not all of the EWS wagons can be easily modelled in 4mm scale unless they are built from scratch using styrene, brass and other sheet materials. Also, some wagons that operated in the early days of EWS ownership are now either extinct, out of traffic or only found in small numbers. Many of these would not be appropriate to a collection representing operations after 2002. The ZBA 'Rudd' ballast/spoil wagon is a good example of this, the now more numerous MFA and MHA wagons having effectively taken its place.

Research

Research can be divided into several areas when deciding upon those models that you would need to collect to represent your chosen time period and operating company fleet. First, obtain catalogues from the mainstream manufacturers to see what type of wagons are on offer and if they match what has been observed from the lineside. Make a follow-up trip to your local model shop to examine each model to determine if they are produced to the standard that you would require in terms of detail and finish. You could visit a local model railway exhibition to do the same thing and talk to other modellers about their experiences of using those models at the same time. Research into models does not end there. A visit to an exhibition with a



This model FAA was constructed from a lead-free cast metal kit produced by Genesis Kits. Low temperature soldering techniques were used to construct it and it was finished with Phoenix Precision EWS maroon paint. The construction of this wagon was described in the Autumn 2006 issue of *Modern Railway Modelling*. FAA wagons (609001-100) are commonly found in EWS Intermodal services conveying 'Hi-Cube' 9' 6" containers.



EWS still operates the HEA ex-BR domestic coal hoppers in industrial coal service and Bachmann offers this model in EWS livery on its new underframe equipped with NEM coupling boxes - although these are not fitted to the standard height from the running rail.

reputation for smaller, more specialised traders, such as DEMU Showcase, offers the opportunity to investigate the kits, detailing components and finishing products that could be used to put your chosen fleet of models together. A combination of ready-to-run models and kit-built items will make your collection carefully considered and customised rather than just a selection of identical out-of-the-box models.

The second area of research should be done on the prototype itself. Whilst books are invaluable, a thorough trawl through railway photography websites and private websites published by railway modellers will often turn up images and information that you need to determine if your chosen models are appropriate and indeed authentic. In the past, mainstream manufacturers have been known to release items that are rather 'freelance' in concept. Private modeller's sites may give you ideas on

how to use detailing components and the inspiration to push you headlong into an interesting project. This



One of Bachmann's first modern air-braked wagons is the large sliding door VGA/VKA. Generally it is regarded as a good model although not equipped with NEM coupling boxes. This model has been weathered and customised by the addition of a few detailing components including brake hoses from InterCity Models. Transfers for this model are available from Fox Transfers. The VGA was reviewed in the Summer 2006 issue of *Modern Railway Modelling*.

combination of model and prototype research together with seeking advice



The Bachmann EWS high-capacity coal hopper is quite superb. The model has been heavily weathered to represent the spillage of power station coal and graffiti transfers applied which can be purchased from Signs of the Times. An article on detailing the HTA was featured in the August 2005 issue of *British Railway Modelling*.

on knowledge from fellow modellers should be sufficient to get you on your way to building a convincing fleet. Do try and avoid modelling from other people's models because you may end up duplicating avoidable mistakes. Model from the prototype, but do not hesitate to adopt best practices and techniques used by other modellers to achieve your goal.

Who does what

The first place to look for suitable models is the catalogues from the mainstream manufacturers, Hornby and Bachmann. You can keep up-to-date with developments by visiting their respective websites, especially the Bachmann one which is very helpful in providing information on when new products are being delivered and details of new releases on a monthly basis. Follow up with a browse through the websites of smaller kit manufacturers for details of those things that can add variety to your collection, although not all of them promote themselves in that

manner and a written enquiry may be necessary - but don't forget to enclose a large SAE with appropriate postage attached. The following information details those models that could be used to model EWS freight stock. Note that this is not a definitive list nor does it include private owner wagons hauled in EWS trains - I have left some research for you to do!

■ Mainstream manufacturers

Hornby offers a number of models which are suitable for the EWS era and are relatively new with modern toolings. EWS inherited the entire MGR coal hopper fleet and several variants of this wagon, together with the China Clay CDAs, have been retooled to a high standard by

TOPS	Type	Primary Traffic	Format	Manufacturer
BAA	Bogie steel	Coil, slab and bloom	Plastic kit	Cambrian Models
BBA	Bogie steel	Coil, slab and bloom	Plastic kit	Cambrian Models
BDA family (BEA, YAA)	Bogie steel	Steel bar, rod, and aluminium	Plastic kit	Cambrian Models
BRA/BYA	Bogie steel	Semi-finished steel	Ready-to-run	Bachmann
BTA	Bogie steel	Steel pipe	Plastic kit and conversion	Cambrian Models/Andersely Kits
CDA	Covered hopper	China Clay	Ready-to-run	Hornby
CEA	Covered hopper	Lime	Ready-to-run	Bachmann
CSA	Powder tank	Lime	Conversion of Hornby PCA	-
FAA	Bogie flat wagon	Intermodal	White metal kit	Genesis Kits
FCA	Bogie spine wagon	Container traffic	Brass kit	Inter-City Models
HAA family	Hopper wagon	Power station coal	Ready-to-run	Hornby
HBA/HEA	Hopper wagon	Domestic and Industrial coal	Ready-to-run	Bachmann, Hornby, Dapol
HSA (ex HEA)	Hopper wagon with doors sealed.	Scrap metal	Ready-to-run	Bachmann
HTA	Bogie hopper	Power station coal	Ready-to-run	Bachmann
IFA	Bogie spine wagon	Intermodal	Ready-to-run	Bachmann
MBA	Bogie box (tall sides)	Aggregates	Kit form in white metal and brass	Hurst Models/Inter-City Models
MCA	Bogie box (low sides)	Spoil/ballast	Kit form in white metal and brass	Hurst Models/Inter-City Models
MDA	Bogie box (low sides)	Spoil/ballast	Kit form in white metal and brass	Hurst Models/Inter-City Models
MEA	Box mineral wagon	Industrial coal and aggregates	Ready-to-run	Bachmann
MFA	Box wagon	Spoil/ballast	Ready-to-run	Bachmann
MHA	Box wagon	Spoil/ballast	Ready-to-run	Hornby
MKA (ZKA)	Box wagon	Spoil/ballast and scrap steel	Ready-to-run	Bachmann
MTA	Box wagon	Spoil/ballast	Ready-to-run	Bachmann
OAA (ZDA)	Airbraked open	Concrete block and general traffic	Plastic kit	Cambrian Models
OBA (ZDA)	Air braked open	MOD etc.	Plastic kit	Cambrian Models
OCA	Air braked open	MOD etc.	Plastic kit and Ready-to-run (1)	Cambrian Models (Bachmann)
ODA	Air braked open	MOD etc	Plastic kit	Parkside
OTA (ex OCA)	Timber	Timber	Plastic kit	Cambrian Models
RRA (ex SAA)	Steel	Runner	Ready-to-run	Hornby
SPA (SKA, ZAA)	Air braked open	Steel	Plastic kit	Cambrian Models
SSA (ex POA)	Box scrap wagon	Standard Railfreight scrap wagon	Ready-to-run and plastic kit	Bachmann and Cambrian Models
SSA (ex POA)	Box scrap wagon	EWS scrap wagon	Modified Ready-to-run	Bachmann
VAA	Air braked van	MOD and general merchandise	Ready-to-run (1)	Bachmann
VBA	Air braked van	MOD and general merchandise	Ready-to-run (1)	Bachmann
VCA	Air braked van	MOD and general merchandise	Conversion	Hornby/A1 Models
VDA	Air braked van	MOD and general merchandise	Ready-to-run	Hornby
VGA/VKA	Air braked van	MOD and general merchandise	Ready-to-run	Bachmann
YGB/YGH 'Seacow'	Bogie hopper (early version)	Ballast hopper	Ready-to-run (1)	Bachmann
YGB (YGA) 'Seacow'	Bogie hopper (1981 version)	Ballast hopper	Ready-to-run	Hornby
YLA 'Borail'	Bogie rail	Rail	Kit (with conversion work)	Cambrian Models
YMA 'Salmon'	Bogie rail	Rail/track panels	Plastic or white metal kit	Cambrian Models/Genesis Kits
ZBA 'Rudd'	Box wagon	Spoil/ballast	Plastic kit	Parkside
ZCA 'Sea Horse'	Low side box wagon	Spoil/ballast	Plastic kit	Cambrian Models
ZCV 'Clam'	Box wagon	Spoil/ballast	Plastic kit	Parkside
ZFV 'Dogfish'	Hopper wagon	Ballast hopper	Ready-to-run	Heljan
ZKV 'Barbel'	Mineral wagon	Spoil/ballast	Ready-to-run	Hornby
ZUV 'Shark'	Ballast plough van.	Ballast	Plastic kit	Cambrian Models

Notes: (1) Bachmann has announced this model and it is in development at the time of writing.



The MEA box wagon was built on underframes from redundant HEA coal hoppers by both BR and EWS, and used on either aggregate traffic or industrial coal traffic. Many of them remain in use with EWS and can be found on a variety of flows. This model is by Bachmann, the body is fitted to the original underframe which has subsequently been retooled.

Hornby, replacing old obsolete toolings, although the newer models have some minor compromises.

Another relatively new model with an interesting history is the MHA ballast wagon which is composed of a box body fitted to a modified MGR underframe to represent the prototype which was constructed from redundant MGR wagons. Be careful which model you choose because the first release of the MHA had a grossly incorrect body which was subsequently retooled. Modellers should also note that there are two body variations in the MHA fleet and the Hornby model only represents the early version. It is finished in EWS livery.

The most recently released new model is the superb YGB 'Seacow' ballast hopper which represents the modern version constructed around 1981. This is available in EWS livery as well as BR Engineers' fleet yellow/grey and Mainline Freight blue. All three livery variations can still be seen operating in ballast trains today.

Hornby still produces some of its older models which could be added to any respectable fleet. They will need detailing and correcting to create a more accurate representation and they are not always available in an appropriate livery. However, many of them are still operating in pre-privatisation colour schemes such as Railfreight livery and a mixture of rust, paint, graffiti and patches with EWS lettering applied randomly. They perhaps offer the modeller the opportunity to indulge in weathering and distressing to customise them. Examples include a BR air-braked open wagon (OAA); air-braked van (VDA) and a model which was acquired from Dapol, the domestic coal hopper or HEA (HBA). At the time of writing, I am



Bachmann utilises its TTA tank wagon underframe for a variety of models representing wagons that have been built on redundant TTA underframes including the MKA, a former POA/PNA type. This is a Loadhaul example taken straight from the box. Liveries of the former trainload companies such as this one can still be seen today. MKAs were used on coal, aggregate and scrap metal traffic before being adapted for the conveyance of spoil. Note though, that the underframe is not equipped with Bruninghaus springs which would normally be found on the prototype.

not aware of any new models proposed by Hornby although there is a chance that Hornby may utilise some of the former Lima toolings at some point in the future.

Bachmann has produced a considerable number of wagon models which are suitable for the EWS era and the range includes models of wagons which were constructed by Thrall Europe and only ever operated by EWS since around 2000/2001. Examples of these include the covered steel carrying wagon (BRA/BYA). Bachmann also offers a superb model of the 102 Tonne high-capacity coal hopper (HTA), which has all but eliminated traditional MGR wagons.

Bachmann also offers a variety of different wagons based on its HEA coal hopper. In 2005 this family of models was upgraded with a greatly improved underframe fitted with much finer detail and metal buffer heads together with NEM coupling boxes, although these are not fitted to the correct height. The HEA

underframe has been used to create models of the MFA ballast/spoil wagon, MEA box wagon and variations on the hopper wagon itself including the CEA and HSA. All of these models (except the HSA) have been offered in EWS livery together with other colour schemes which still can be seen operating today, including Mainline Freight and Loadhaul.

Several models have been produced that are based on the underframe taken from the private owner TTA 45/46 Tonne tank wagon which was released in 2005. As private owner wagons such as the TTA and POA were superseded by more modern high-capacity wagons, the underframes were recovered

and equipped with new bodies for ballast and spoil traffic. The EWS MTA box wagon is a good example of this and the model is reasonably good given its price. However, Bachmann's TTA underframe represents only one of several different types and is not modelled with modern Bruninghaus suspension. The same underframe has been used to create several versions of the former Tigerail POA wagons, once used on aggregate traffic from the Mendips and now used on various traffics including ballast, spoil and scrap metal. These wagons are coded MKA and are often found in deplorable cosmetic condition. Most of the fleet are modified with slots cut in the sides for use on spoil traffic.

Other wagons include the large sliding door van (VGA/VKA), which was one of Bachmann's first attempts at a modern air-braked wagon. It also produces an early version of the POA scrap metal wagon in Barclay blue which is being updated with a representation of the



The highly acclaimed intermodal 'twin' wagon model is ideally suited for the EWS era. It still operates on international and domestic intermodal services. Bachmann has made this model available with EWS 'Unilog' markings with a variety of containers. The conveyance of containers on EWS intermodal services is not as random as it may first appear as shipping companies sign contracts with particular freight companies which means the containers from those shippers rarely appear on other company services. You will frequently observe UBC boxes on EWS Intermodal services.



The MBA (500001-229 with gaps) is a bulk bogie box wagon built by Thrall Europe at York used on aggregate traffic from the Mendips and Buxton area. They turn up on a variety of different traffics and have been seen in scrap traffic in the Midlands. This model is a Hurst Models kit, painted with Phoenix Precision paint and finished with Hurst Models transfers. The MCA/MDA cut-down version of this type of wagon is also available as a kit from Hurst Models, construction was described in the Winter 2004 *Modern Railway Modelling*.

scrap deflector plates. These privately owned wagons were purchased by BR, re-coded SSA and inherited by EWS. Bachmann plans to release a revised body version of this model but not the EWS rebuild as far as I am aware. The final wagon of note for EWS operations is the highly acclaimed Intermodal 'twin' which is superbly modelled and available with EWS/'Unilog' branding.

Bachmann's plans for the future are quite ambitious and include several new wagons which will be of value in any EWS era collection including BR air-braked vans such as the VAA and VBA. It proposes models of air-braked open wagons including the OBA and OCA. Another eagerly awaited model is its

proposed version of the early design of 'Seacow' and 'Sealion' ballast hopper.

No list of models would be complete without reference to the Heljan 'Dogfish' ballast hopper wagon which was used in the early part of the EWS era. They are now rarely seen and almost extinct except a small number of air-braked examples. Personally, I cannot remember the last time I saw one in use.

■ Kits

There are lots of detailing components, finishing products and kits that can be used to enhance virtually any model of a modern air-braked wagon. On the whole, they are produced by small manufacturers, many of which operate

on a part-time basis or are part of a larger model business. Not all of the kits and bits are necessarily available at any given time and some kits are produced only on a limited run basis.

The EWS MBA bogie box wagons constructed by Thrall Europe together with the cut-down versions, the MCA and MDA are available in kit form from two manufacturers: Hurst Models offers this wagon in resin and white metal whilst Inter-City Models produces them in etched-brass with white metal fittings. Both families of kits are produced to a very high standard.

Other Thrall Europe designs include the FAA, which is currently offered as a lead free, cast metal kit from Genesis Kits. The FCA container wagon is offered by InterCity Models.

If you prefer the more traditional air-braked wagon, Cambrian Models offer some very basic plastic kits of wagons such as the large bogie steel carrying wagons including the BAA, BBA and BDA, all of which are in use today in one form or another. The range includes air-braked open wagons such as the OBA, OCA and SPA, together with a timber wagon based on the OCA underframe. Particularly notable kits include the ZUV 'Shark' ballast plough van and the POA scrap wagon. This range of kits is now considered to be basic compared to recently introduced products but at one time was the main source of kits from which modern wagons could be modelled.

Genesis Kits has added the BBA together with alternative coil cradles to its range and EWS engineer's train enthusiasts will find the 'Salmon' rail carrier and associated rail handling machinery of interest.

Although better-known for its range of traditional BR wagons, Parkside Dundas offers some or up-to-date wagons as plastic kits including the ZBA 'Rudd', OAA open wagon and ZCV 'Clam'.

Adaptation

There is nothing to stop you from using the amazing variety of detailing components and finishing products to customise, detail and adapt the various kits and ready-to-run models that are currently available. Genesis Kits, Inter-City Models, MJT Components and S Kits all offer a variety of components to enhance modern wagons and these components are as diverse as buffers, air-brake equipment, axle guards, suspension springs, coupling hooks, air hoses, brake blocks and shoes, bolsters, bogie kits - there is a great deal of

trade support available. Conversion kits are also available such as the BTA pipe wagon conversion available from Andersley Kits which is designed to suit the Cambrian Models BDA kit.

Finishing products are available from Fox Transfers, Modelmaster Professional, Phoenix Precision Paints and Railmatch, all of which can be used to repaint existing models, apply new transfers to renumber them and customise them and to finish the various kits currently available. Do not forget to add weathering powders, weathering paint colours and varnish to your shopping list. Part of customising your fleet will be to weather the models convincingly using reference photographs to see how they accumulate grime or slowly rust away

RIGHT: The MHA (Nos.394001-410) is a rebuilt MGR wagon equipped with box body for the conveyance of ballast and spoil. The first version of this Hornby model was wildly inaccurate and subsequently retooled by Hornby. The model represents one of two versions of this wagon currently operated by EWS. It is equipped with NEM coupling boxes which are fitted at the correct height together with sprung buffers.

BELOW: A rake of 15 empty MBAs were on their way back to Westbury, hauled by 66 103 when photographed at Pewsey in June 2003. MBA wagons are frequently found on aggregate traffic from the Mendip quarries and operate in block formations most of the time. Note that MBAs consist of both inner wagons without buffers and outer wagons equipped with buffers at both ends which sometimes find use singly on some specialist traffics.



The MTA (Nos.395004-241) represents another use of the Bachmann TTA underframe. Many SUKO (Shell) registered TTAs were rebuilt into this version of an EWS aggregate/spoil wagon with low-sided box strengthened with substantial ribs to withstand unloading by mechanical 'clamshell' grabs. They are commonly found operating to and from virtual quarries and can be seen together with MHA and MFA wagons at locations such as Didcot, Eastleigh, Westbury, Hinkley Yard, Bescot and Warrington to mention a few. The Bachmann MTA model was reviewed in the Autumn 2005 issue of *Modern Railway Modelling*.





ABOVE: The MFA is a cut-down version of the MEA for conveying spoil and ballast. Some were modified by removing either the top portion or bottom of the body depending on the contractor undertaking the work. Many of the modified wagons were only partially repainted and patch-painted versions can still be seen. Although the wagon is allocated a 'revenue' code, its use is almost exclusively on engineers' traffic as EWS regards ballast and spoil trains as revenue services and 'new' ballast/spoil wagons are coded accordingly. The Bachmann model has the upgraded HEA underframe.

BELOW: My model of an EWS SSA scrap wagon (Nos.470000-180) is an extensively rebuilt Bachmann POA model with additional bracing and deflector plates added using styrene strip. The model has been finished with Phoenix Precision paint; transfers were taken from miscellaneous sheets by Fox Transfers and weathering was applied using a mixture of weathering powders and acrylic paint.



This is a good example of a traditional air-braked wagon (OBA No.110658) in use with EWS at Westbury in April 2003. It has been crudely repainted in EWS livery on the sides whilst retaining Railfreight red on the ends. Graffiti obscures most of the paint. Note that the wagon details have been re-applied over the graffiti on a black patch.

Conclusion

Collect the catalogues, do the research and the modelling of a convincing wagon fleet appropriate to your time period is both an enjoyable and satisfying thing to do. I mix and match the products from various manufacturers to introduce a unique blend of models which will do much to avoid a uniform 'out-of-the-box' appearance to my collection. Have a go yourself and enjoy the process of creating a unique collection, even if a model of that prototype you have painstakingly built from scratch becomes available as an off-the-shelf item!

Useful addresses:

Parkside Dundas

Millie Street, Kirkcaldy, Fife KY1 2NL
Tel: 01592 640896
www.parksidedundas.co.uk

S Kits

Shawplan Models stocks S Kits parts and models.
1 Brandon Lane, Toll Bar, Coventry CV3 3GU
Tel: 024 7630 5991
www.shawplan.com

Genesis Kits

Waveney Cottage, Willingham Road, Market Rasen, Lincolnshire LN8 3DN
Tel: 01673 843236
www.waveneycottage.co.uk

Also stocked by **Modern Structures in Miniature**
www.m-s-i-n.co.uk

Cambrian Models

Office 8, 65-81 Winchelsea Road, Rye TN31 7EL
www.cambrianmodels.co.uk

Inter-City Models

9-10 Celtic House, Harbour Head, Porthleven, Cornwall TR13 9JY.
Tel: 01326 569200
www.intercitymodels.com

Hurst Models

www.hurstmodels.co.uk

Andersley Kits

Alan Curtis, 38 Whitehouse Road, Ruskington, Sleaford, Lincs. NG34 9TP
www.andersleykits.co.uk

Fox Transfers

138 Main Street, Markfield, Leicestershire LE67 9UX
Tel: 01530 242801
www.fox-transfers.co.uk

Railway stations

Allan Downes explains more of his 'unique' building methods



Quite what the Up 'Flying Scotsman's' 'Deltic' is doing light engine on one of Bishops Castle's centre roads is a moot point, though it's a nice picture.

At one end of the scale you had cavernous halls of glass and girder that swallowed trains whole. At the other end, a sleeper-built halt hardly a coach long with some kind of shelter bolted to the platform with an obligatory strip of valencing nailed across the front and a bucket with 'Gents' written on it. Sarsden Halt on the long since closed Kingham to Banbury branch was one such example whence I spent many a windswept hour waiting for the 'Banbury Tin Can' that announced its arrival in a furious display of steam and soot, then

under protest belched its way in to Chipping Norton only to wheeze off again and finally collapse exhausted in a final heroic effort to make the Banbury buffer stop; I'm sure that had it two coaches instead of one it would never have made it out of Kingham. Halycon days to be sure.

If you have main line extravagance in mind then look no further than Gainsborough Model Railway Club's magnificent interpretation of Kings Cross. A masterpiece in O gauge but you won't get it in the box room! So, what you see here is kind of something in between and although shown as a through station it

could, nevertheless, be modelled as a terminus by just building across one end and sticking in a couple of buffer stops. Whichever way you look at it, main line stations take up a considerable stretch of railway if they have to hold 12-coach trains and even Gainsborough had to compromise, so no doubt you will have to do likewise.

The length of platforms at Bishops Castle on this gauge 1 railway are 16' and not half as long as one would prefer. If this were in 4mm say, you would be somewhere nearer the prototypical mark but most of us would want to build an entire layout in that length so it's out with the band saw!



Imagine making all of that valencing from scratch. In the background is the cenotaph cooling stage - a subject for a future article?

The design here is nothing too intrusive, just a two-storey centre building flanked on both sides by long single storey waiting rooms. On the opposite platform stand two similar waiting rooms with the lift tower and toilet blocks standing in between, and linked to the main building by a covered footbridge. So really there's nothing to get excited about architecturally – just a few acres of cardboard and brick paper made to look more interesting by an expanse of glazed, pitched canopies, more of which later.

The buildings are all constructed from 2mm card throughout and faced up with 7mm brick paper, where in fact it should have been 10mm but, since there's nothing in this scale available, I had to take a chance using underscale brickwork. As it happens, so far nobody has ever picked up on it. The art of compromise maybe?

The windows are of critical importance. No matter how large or small a model may be, no effort should be spared in getting them to look right. So okay, you could just paint or scribe-in the glazing bars onto a sheet of clear plastic and be quite happy with the results. Well, that's fine until you see what's available in etched-brass format these days. Moderately expensive yes, but more than worth the outlay and to these ends I have used the Scalelink etched-brass windows of which there is a large range both in type and scale. For further information on what's available give Scalelink a call on 01747 811817.

The moulded window surrounds give relief to what would otherwise be just a 'hole in the wall' and helps to break



On the opposite side to Bishops Castle station of the (huge) room holding this gauge 1 system is the secondary station, Owlbury Town. I was given free rein to build the street behind – a delightful mixture of styles.

up the dull expanse of red brickwork. The surrounds are built up using various sizes of Evergreen plastic section and you wouldn't believe the extent of their range. It's quality and quantity. Their moulded building sheets, designed to meet all scales, are second to none. Here you will find moulded sheets of novelty boarding, 'V'-groove, shiplap, raised seam boarding, paved tiling and much more. These products are an absolute essential if you are seriously into scratch-building. I use it by the truck load and would suggest that if you are going to then get hold of their catalogue; one stockist that I know of who carries the full range is 'The Hobby Box' (Tel: 01825 765296).

No railway station is complete without an adornment of travel boards and posters and nobody does this better than 'Tiny Signs' who provide

authentic replications to suit scales up to 7mm and in most regions; again, nothing for gauge 1 – very little is – so I had to make do with posters the next scale down. I find when working in gauge 1 you find yourself doing an awful lot of this!

Canopies

Now these really make the difference and here you can go either of two ways. Seen as a desert of glass bordered by a seemingly endless ribbon of valancing, they can either be built flat or pitched. The first is the easy way out involving little more than a canopy frame decked in glazing. Build them pitched, however, and it's another



Though still under construction, this shot shows what Tony George and I are trying to capture with Bishops Castle – a typical main line station with fast roads in the middle.



An overall view of Bishops Castle station with, obviously, much to do. Amazing, really, to think the platforms are too short!

matter altogether – not difficult, just a whole lot more work and materials but, aesthetically way out in front for appearance.

For this I built up a good strong ladder frame out of ½" square hardwood strip pinned and glued together. The cross bracing is set wide enough apart to run in line with each pitched section of canopy. The canopy face is cut as one piece from 2mm card leaving a 10mm wide valley between each pitch. This is then faced out with Evergreen 'V'-groove boarding. The rear canopy formers are

cut to the same profile as those along the front and glued down in alignment.

For the glazing I would suggest that you don't use anything less than 2mm thick – that's only if you don't want wavy canopies and on a model nothing looks worse. The canopy glazing is cut out to fit as one piece over the canopy formers. Score the glazing almost right through down the centre and it will bend without splitting. First, however, glue in the glazing bars with solvent, just a touch with a loaded brush will do and capillary action will do the rest.

When complete, glue the sheet over the formers using Evostick impact.

The valencing used is from Scalelink. It is etched-brass and is best sprayed on the sprue then just simply glued in place along the canopy with impact adhesive. With this in place, the canopy is finished.

Platforms

I should mention that the stations shown here are all part of the Bishops Castle layout and the platforms were built by Tony George himself, whose layout it is, and here he used a framework of sized timber, decked out with 6mm MDF, surfaced with Evergreen tiling sheets. With each platform at 16' long he certainly had his work cut out but I must say that he made a superb job of it.

However, platforms of any length and no matter how well built have a tendency to warp so need to be screwed down at both ends. Leave the screws exposed in case you need to move the platforms for whatever reason. You can disguise the screws by standing a passenger, crate, milk churn or what have you on top of the screw head.

Platform heights always come into question here and you will find that this varied from region to region, albeit not by much. As a guide, the top of the platform edging should strike a horizontal line through the buffer centres and you should be about right.



This typical GWR box was built using the methods outlined in the text. The stairway access is inside - a useful, time-saving dodge.

As for platform clearance, this again varied but always allow for what manufacturers consider as the standard loading gauge which quite often I assume is a wild guess!

While some locos will clear the platform with room to spare others will jam up solid, so always allow a little extra clearance for this not to happen. Manufacturers apart, it also happened in the real world and in particular where the GWR was concerned, which seemed to live in a world of its own with a loading gauge wider and taller than everyone else's.

You often hear tales of 'Kings' and 'Castles' hurtling through stations on newly-acquired lines ripping out all the platform edging in an onslaught of steel versus concrete! Anyway, it was quite an interesting diversion from a company that claimed it got everything right while the rest hadn't a clue as how to run a railway!

Signal Boxes

See what you can make of this. The Appelby signal box on the line to Immingham near where I live in North Lincolnshire was falling to pieces. Fine, most of them are around here where all that was required of any box is to open and close crossing gates twice a year maybe. The station



The secondary station's frontage - built at a time when architecture was confident and flamboyant. A large bus shelter would do today, either that or a concrete block.

has long since gone and all there is left to show that there was ever one in the first place is a pile of old sleepers and what looks like the remains of a platform.

The box, a sad, unhappy looking specimen engulfed in weeds, stood uncertain in this forlorn state for years and one good gust was all it would take to pile it up amongst the pile of sleepers. Then they built an automatic barrier crossing. The idea of this was to

dispense with the need of a signal box altogether and by just leaning on the one at Appelby is all it would take. But, what happened?

Well I'll tell you, they rebuilt it! A team moved in and spent the next six months furiously hammering nails into anything that moved. They then fitted new windows and totally restored the interior. It got a new roof, new steps and if you looked at it now you would swear that it was only built yesterday. But why?

Tony Wright seems to be able to stick his camera anywhere, nowadays, though shots like this give a sense of real scale, especially on a large project such as this. Even a gauge 1 EE Type 4 is dwarfed by the structures.





How much more construction is still to take place is illustrated by the amount of timber alongside Owlbury Town.

It is not manned. It serves no purpose whatsoever and nobody really cares. The money spent would have been better used levelling up the approach roads to the crossing which, as it stands, would rip the bottom out of a 50 ton truck; cars stand no chance. The roadside may well be littered with rusting exhaust pipes and silencer boxes but, by gad, Appelby Crossing has got the best looking signal box in Great Britain. Well done whoever!

It's a strange place is North Lincs and signal boxes apart I must tell you this. The truly magnificent Barton-on-Humber town council had £50,000 to spend on a new public toilet. There was no room in the town for it

because they already had one. So what did they do? They built an architectural masterpiece fit for kings on the banks of the Humber where all you ever see is a handful of half-dead pensioners like me walking a handful of half-dead dogs. Oh, and a sea of liquid mud. Brilliant! The local brain dead on learning of this (they couldn't have possibly read about it in the papers) reduced it in a few short weeks to a graffiti-splattered wreck. Only a council committee could have possibly come up with

something like that! Anyway, back to signal boxes.

All windows, barge boards and steps would suggest, I suppose, a fiddly undertaking, at best involving many separate parts so resulting in a rather flimsy structure - but not necessarily so. They can be built just as strong as any other building and I find this was as good a way as any - a glass box.

What I normally do here is to build a strong solid glass box out of 2mm clear plastic glazing which now gives a substantial base on which to work.

The windows used here are brass etched from the Scalelink range and will determine the overall dimensions of the signal box. When working out the dimensions you must also remember to allow for the timber framing, that's the corner uprights and window divisions. With this, I find it a lot easier to map all this out onto a sheet of 1mm styrene, then cut it out as a one piece fret and glue this down over the glass box.

In order to give more depth to framework, Evergreen plastic section is 'planted up' over the fret to show a depth of somewhere in the region of 3mm overall. This will now take the recessed boarding, cut from the Evergreen boarding sheets. This is 1mm in thickness so allowing the frame to stand 2mm proud as is prototypical.

Next, in go the windows. All Scalelink windows have locating tabs running down the two sides. These will not be needed here so cut them off with scissors.

Now the last thing you want to see here are great splodges of glue grinning back at you from all over the glazing



Elevated signal boxes like this, though quite common, are not often modelled - too many fiddly bits I suppose.



The 'backside' of Owlbury Town's main station building. No way of getting away with half-relief here.

and it's not always easy to avoid when you consider the width of a glazing bar. The best way around this I have found is to lightly spray the back of the window with Scotch 'Photo Mount' spray adhesive. This is a gentle but powerful adhesive that doesn't come spiralling out of the can like demented candy-floss as most spray adhesives are inclined to – the worst of them all is carpet spray adhesive. Give it a wide berth!

The glue is left to go tacky and then the window carefully placed in between the uprights and very lightly pressed

home; glue free glazing, nice clean job and how you would want it.

Now the interior. This is boarded out using the same boarding used on the outside and of course, this will include the floor. As for the interior detail – signal levers and such – Springside Models supply a really comprehensive signal box interior kit cast in white metal. You even get a signaller chappie!

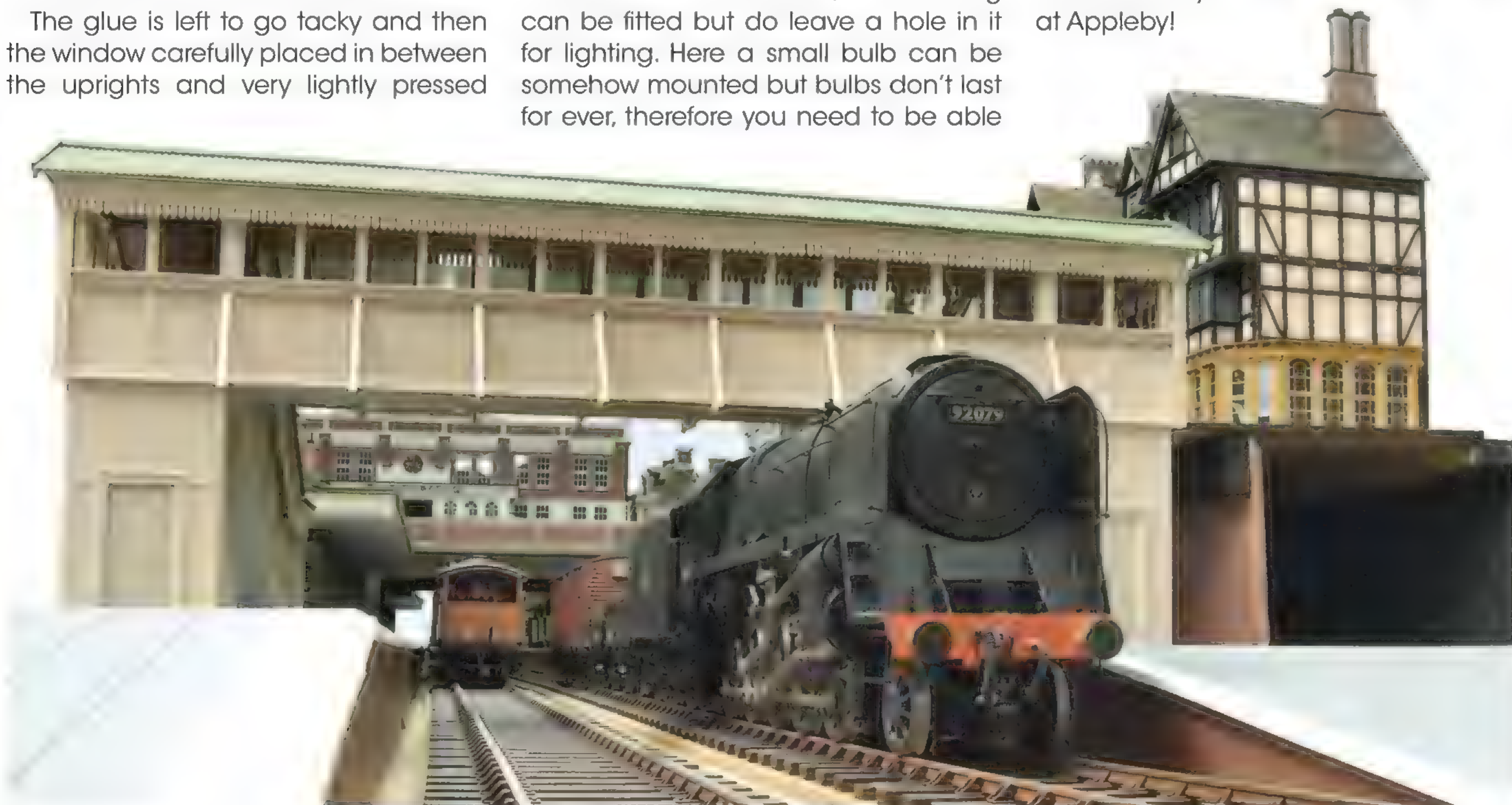
With all this installed, the ceiling can be fitted but do leave a hole in it for lighting. Here a small bulb can be somehow mounted but bulbs don't last for ever, therefore you need to be able

to get at it. This means a removable roof. All this amounts to is a false roof built over formers cut to the same profile as the gable ends. Allow some tolerance here for easy removal. This roof should be built as complete, that is tiled out with barge boards and finials fitted to the ends.

Now, with regards to signal box steps, cat walk stanchions, bargeboards and finials, Freestone Modelling accessories (Tel: 01933/7775979) provide all that is necessary to complete a signal box. Regarding the ladder rests, I use long shanked hand rail knobs for this by drilling the holes into the window division upright and corner timbers, then set in place with a drop of superglue. I find this easy if you pour a small amount into a Humbrol paint tin lid and dip the end of the shank into this, then, using a pair of long-nosed pliers, push the hand rail knobs home making certain that all the holes line up horizontally. Brass rod is now fed through the holes, snipped to length and held in tight by just a very small drop of superglue spotted to the ends only. This will hold indefinitely.

Finally, the steps are built up, but before fitting to the box, a base needs to be cut out, paved and the signal box glued down to this. Now the steps will have something to rest on so therefore can be offered up to the box and glued in.

All you need to do now is to paint it out in your regional colour scheme and then you will have it, a signal box to outlast any – even the one at Appleby!



The shape of things to come as Tony staged this shot (the rails finished just off camera). Look out for further progress reports on Bishops Castle in *BRM*.



Letters from 'Thomas'

Pat Hammond investigates the origins of the characters in the famous 'Thomas the Tank Engine' books. Photographs and images from the author's collection.



The Rev. Wilbert Awdry signing copies of his books at the International Model Railway Exhibition, Royal Horticultural Halls, Westminster. John Emerson Collection

I was looking at the illustration of *Duck* in one of the Reverend W Awdry's books and it suddenly struck me that I had seen that GWR Pannier tank somewhere before - and it wasn't in a book! In the early 1950s, if you wanted a ready-to-run OO scale 57xx Class Pannier tank, the chances were that you bought the Gaiety model, made by Castle Art Products of Birmingham. This was first released in 1950 and was available for a number of years, becoming a firm favourite on many a '50s layout. The model always carried the number '5700' as it was cast into the cab

sides and it was instantly recognisable but the character in the books was renumbered '5741'.

Toby, Daisy, Co-Co and Co-Bo also looked familiar and I decided to find out if my suspicions were correct. I had read a number of articles about layouts Awdry had exhibited and I wrote to him stating that I wanted to write an article about his modelling. I sent him a number of questions and rather expected not to hear any more about it as he was obviously a very busy man. I was surprised, therefore, to receive a packet in the post from a house called 'Sodor', in Stroud, Gloucestershire, containing a letter from the Rev. W Awdry and about 20 large pages of hand-written notes about his various layouts and the models that he had run on them. Over the following months correspondence flowed between us and I finished up with all the information I required.

One of the things that Awdry confirmed was that *Duck* had, indeed, been a Gaiety tank and had earned its name at a show where he was exhibiting one of his layouts. His particular tank had a problem with the wheels that caused it to move from side to side and one child remarked that it waddled like a duck! From that day, the model was always known as *Duck*.

Sometimes Awdry's letters were typed and sometimes they were hand-written, but always the first sheet consisted of his personal writing paper which carried a

The writer's first 'Thomas' book, received Christmas 1946.

picture, not of *Thomas* but of Sydney & Parramatta Railway loco No.1. His home in Stroud, however, was named 'Sodor' after the imaginary island in his books.

I found him extremely helpful and it was confirmed that the characters had indeed been based on models on his layouts, several of which were scratch-built while others were based on proprietary models.

Sodor

The Rev. W Awdry wrote 26 books in his 'Railway Series' of the trains that ran on his imaginary Island of Sodor. Between 1945 and 1972 he published a new book every year with the exception of 1946 and 1971. Over the years the history of Sodor's railways was gradually unravelled as new lines and new characters were brought into the stories. In book 4, the Ffarquhar Branch was taken over by *Thomas* and in book 10, published in 1955, we learnt about the narrow gauge Skarloey Railway which ran from Crovans Gate up into the fells above the town. In 1964 (book 19) we were introduced to the Culdee Fell Rack Railway near Peel Godred - the largest town on the island.

In book 21, published in 1966, we met *Bill* and *Ben*, two industrial tank engines on a china clay works line in the south of the island. China clay was not the only mineral exported from Sodor. Rock came from a

quarry at the end of the Ffarquhar Branch where *Mavis* worked (book 26) and slate came down the Skarloey Railway.

The link between Tidmouth and Arlesburgh had been little used since 1947 but in 1964 the 'Fat Controller' formed a consortium to develop Arlesburgh. *Duck* and *Oliver* were put to run the rail link (books 23 and 24) and a 15" gauge miniature railway was laid between Arlesburgh and Arledale (book 22).

What does all this have to do with railway modelling?

No-Where Railway

It seems that Awdry's own railway modelling started again in 1948 when he lived at Elsworth in Cambridgeshire and was writing his fourth book - *Tank Engine Thomas Again*. It served as a background to the characters he had created. His railway was the NWR (No-Where Railway) as it was totally freelance. It was in self-defence, made necessary by small boys criticising the discrepancies the artist had made in his illustrations for the stories, that a location had to be found. This led to the imaginary Island of Sodor and the NWR later standing for 'North-Western Region' of British Railways.

Thomas, *Percy*, *Duck*, *Edward*, *Henry* and *James* all ran on this three-rail layout which formed a broken square with stations called Knapford and Tidmouth - both to be found in the books. The layout was dismantled in December 1952 when the family moved house.

Ffarquhar (1)

The new home had two large attic rooms and Awdry told me that he had visions of a railway empire! The new layout was planned as a main line section with return loops at each end and relay control. One loop represented all stations to Tidmouth, the other likewise to Barrow. At the junction



'James' Mk.2 built in 1976 from an extended Tri-ang 3F.

in the middle was Knapford from which *Thomas'* branch line was to be built. Due to problems with the controls, the layout was constantly under repair and consequently was never completed.

The opportunity to start something simpler came in 1955 when Awdry was asked to build a layout for the Wisbech Trades Fair the following year. What resulted was the Ffarquhar branch line, given to *Thomas* to run in *Tank Engine Thomas Again*. This was described three years later in the December 1959 issue of *Railway Modeller*.

It was a 6' x 4' portable layout which became very popular at shows and fairs including the Model Railway Club's Easter Show at the Central Hall, Westminster. So popular was it that it appeared three years in a row between 1963 and 1965. It was built with Wrenn steel track which Awdry described as 'strong, simple and utterly reliable'. The layout operated to a set programme and a spoken commentary but, after Awdry lost his voice during the week of the 1963 exhibition, he resorted to a tape recording.



The original Gaiety 'Duck' bought in 1949 as a spare engine.

The Ulfstead Road layouts

The family moved house again in November 1965 and the layout did not fit conveniently into the railway room. Awdry's son, Christopher, who used to help him at shows, now worked many miles away and so was unable to help with the dismantling and transportation of the layout for shows. A new layout was needed.

Originally, a new version of Ffarquhar was planned with lift-out sections for exhibitions and an adjoining narrow gauge railway based on the Skarloey Railway described in the books. These plans were detailed in the 1968 edition of *Railway Modeller* but did not come to fruition as planned.

What did follow was a OO9 layout based on an idea about a lost railway on the Island of Sodor. Ulfstead Road, as it was called, was a model of the Mid-Sodor Railway. This layout went through three stages of development, the first being exhibited at Worcester in 1968 and the final version made its debut at the National Model Railway Exhibition in April 1974.

It was the second version of the layout which inspired the 25th book in the Railway Series - *Duke The Lost Engine*. In this, Awdry and the late Teddy Boston appear as characters in the story and are referred to as the 'Thin Clergyman' and the 'Fat Clergyman' - but the illustrator captured their characters very well.

Ffarquhar (2)

By 1970, the second version of Ulfstead Road was finished and working. Attention could now be given to the second version of Ffarquhar. This had to fit into Awdry's car and be manageable by one person. The scratch-built trackwork and station were very similar to those of the first Ffarquhar but the fiddle yard was repositioned.

The layout was first shown in Bristol in 1972 and at Gloucester, with a spoken commentary. By the time of the National

Model Railway Exhibition of Easter 1973, a taped commentary had been prepared. After 15 years as a star of many shows, it made its final public appearance in September 1987.

The original locomotives

What of the models themselves?

Thomas did not come into the stories in the first book, but he was Awdry's first model and soon became the public's favourite. Bought in 1948, it was a Stewart-Reidpath 0-6-0 tank engine painted blue like the *Thomas* in the books. The model was converted from three- to two-rail operation in 1953 and did not 'pass into preservation', along with its original coaches, until 1978. That year, it was replaced by a Tri-ang 'Jinty' painted blue which ran reliably for many years until relegated to reserve engine. It was in turn replaced by the Hornby LBSC Class E2 which was so much more like the character in the books. Hornby were later to convert their Class E2 tank into *Thomas*.

Percy was built by Awdry in 1949 at about the time he was working on *Troublesome Engines* (book 5) in which the character arrived on the line. Like the 'Fat Controller' in the book, Awdry needed another engine. It had a soldered brass body on a motorised chassis and was built for the purpose by Stewart-Reidpath. It was intended that the model would be used for the book illustrations but the artist, Reginald Dalby, did not pay much attention to it. Consequently, the *Percy* in the books developed a character of its own.

The model was converted to two-rail in 1953 and the motor proved reliable until 1977. By then, Awdry had no more Stewart-



'Percy' Mk.1 built in 1949 as a soldered brass kit on a Stewart-Reidpath chassis. It remained in regular service until 1978.

Reidpath spares available and it became temperamental. It was relegated to 'spare loco' in 1978 after *Percy* Mk.2 had been built. This used a Tri-ang *Nellie* chassis with scale wheels and the boiler removed and replaced with parts from Airfix J94 and L&Y 'Pug' kits. This proved to be a reliable and smooth running model.

Duck turned out to be a Gaiety 0-6-0PT, as I had predicted. It had been bought in 1949 as a standby for demonstrations at a fete. It was not until 1956 that *Duck* was included in a story and this was in book 11 - *Percy the Small Engine*.

The first *Duck* was repaired with spares from other second-hand Gaiety motors until 1979 when supplies ran out. It then went into preservation and was replaced that year by the Hornby Class 57xx Pannier tank. This failed at the National Model Railway Exhibition in 1982 and was replaced by a Mainline 57xx.

Edward featured strongly in the stories but did not have his own book until 1954. The model, however, dated from 1950 and was built from a KMR 2P kit. After several derailments, in 1951 it was sent to Stewart-Reidpath for a new motorised chassis. It returned there in 1953 to be converted to two-rail operation. *Edward* did not form part of the stud for the Ffarquhar Branch and, after 1959, it became a static model, with its motor removed for spares.

Henry had been in the stories from the start. In 1951, Awdry acquired a second-hand Graham Farish 'Black Five'. It arrived in a filthy condition but, once cleaned up and converted to three-rail operation, it worked quite well. In 1953 the model was returned to two-rail and it continued in use until the motor finally gave out. A Tri-ang replacement was provided with a Hornby spring as a universal joint but it was not very satisfactory and was scrapped. It was the only one of the character models to go without replacement or preservation. This suggests that Hornby were correct in using their old 'Black Five' model to produce their version of *Henry*.

James also appeared in the first book, as a piece of artist's licence by Dalby but he came to fame as a 'new' engine in the second book where he reverted to being painted L&YR black (but given a blue sheen by Dalby). In the story, after his crash he was painted red again to cheer him up! Although he had a book to himself in 1948, it was not until 1951 that a model of him arrived on the Elsworth layout. It was a Drummond G&SWR 2-6-0, built to order by P R Wickham. The model was not successful in three-rail but, after receiving a new Stewart-Reidpath chassis as a two-rail model, it became very lively.



Built in 1959/60, 'Donald' was also from a Tri-ang 3F with altered firebox and boiler mountings. The tender was made to look like the McIntosh 'Caley' type.



'Toby' Mk.2, from a K's kit, with 'Daisy' which was built from a Tri-ang Class 101 DMU to make a single car unit.

After 1959 the Essar motor was removed for cannibalisation and the model kept as static but painted in G&SWR livery.

In 1976, a replacement was built to resemble *James'* appearance in the books. This involved extending the smokebox and footplate of a Tri-ang 3F and fitting a front pony truck. Later, Hornby achieved their own *James* the same way.

Toby

One day, Awdry and his son were in Yarmouth when they saw a dilapidated J70 tram engine. 'She trundled along the street ringing her bell', wrote Awdry in one of his letters. 'The guard walked solemnly ahead carrying a red flag. We tracked her to her lair at Vauxhall and made friends with her driver, who allowed us to explore her 'innards' and take photographs'. The pictures in *Toby The Tram Engine*, published in 1952, were based on the photos he took at the time, plus a Skinley blueprint.

In 1953, using drawings supplied by Stratford works, the first *Toby* model was scratch-built in plywood and card on a Romford motor bogie and brass frame. The cowcatchers were made from household pins. The model lasted until 1979 when it went into preservation.

Toby has two items of rolling stock of his own. The four-wheel Wisbech & Upwell coach (*Henrietta*) was built by P R Wickham and the W&U guards van (*Elsie*) was scratch-built by Awdry in 1953/54.

By 1965 a spare *Toby* was required and this was built from the K's kit of a J70. (an article about this was published in the *Railway Modeller*). It was powered by a K's motor bogie which, after ten years, was not performing as well as it should. Thus, a third *Toby* was made, again from the K's kit, and mounted on a cut-down Tri-ang *Nellie* chassis.

Gordon was another of the original engines in the books but was not modelled for Awdry's layouts. It was built in 1956 as an artist's model for John Kenney who took over the illustration from book 12 - *The Eight Famous Engines*. Awdry lent Kenney his models to familiarise him but as there was no *Gordon*, one had to be made.

In book 23, *Enterprising Engines*, we learn that *Gordon* was Doncaster-designed and so it is surprising to learn that the mock-up supplied was based on a Tri-ang 'Princess'! Awdry smoothed off the corners of the Belpaire firebox and removed the Stanier top-feed, dome and chimney. The boiler was then reshaped with parcel tape and the firebox given a wider base. By rubbing and sawing, the footplate was altered. An LNER chimney and dome were added and BRMSB wheels replaced the Tri-ang ones. Hornby had a much easier job as they were able to use their A3 model.

Donald

In 1959, Awdry was writing book 15, *The Twin Engines*, about two McIntosh Caley 0-6-0 838 Class locomotives acquired by the railway. These were *Donald* and *Douglas*. Once again, a model was required for the artist. This was produced in 1959 from a carved-up Tri-ang 3F and, as in the book, started off in black livery, later to be painted blue and lined out in red. Caley boiler mountings and BRMSB wheels of the correct diameter were used and the tender was altered to look like a Caley type. Only one model, *Donald*, was made and so there was no *Douglas*, except in the books. *Donald* also ran at exhibitions.

Stepney was in book 18 - *Stepney the Bluebell Engine*. This was published in 1963 and Awdry built a K's 'Terrier' kit as an artist's model. It was fitted with a K's flywheel motor, painted in Stroudley's 'New Improved Engine Green' and was used at exhibitions. Hornby used their former Dapol model of a 'Terrier' tank for *Stepney*.

Oliver was inspired by a visit to the Dart Valley Railway and book 24, *Oliver the Western Engine*, resulted. *Oliver* was a GWR 14xx Class 0-4-2T and an artist's model was built from a K's kit. By now Gunvor and Peter Edwards had taken over as illustrators. Later, Hornby were able to use their former Airfix Class 14xx to create their model of *Oliver*.

Daisy, the 'highly sprung' diesel railcar, was made while book 16, *Branch Line Engines*, was being written in 1960. A look at the illustrations immediately reveals the Tri-ang influence. The model was made from a second-hand Class 101 two-car DMU.



The first map of Sodor.

The driving end was cut from the trailer car and cemented to the square end of the powered car to produce a double-cabbed vehicle. The model ran well for more than 23 years.

Mavis was a Drewry diesel shunter belonging to the Ffarquhar Quarry Company and the model was built from an Airfix kit and powered by a K's motor bogie, weighted with lead. It ran at the National Model Railway Exhibition in Central Hall in 1965. Despite the early date of the model, *Mavis* did not appear in stories until *Tramway Engines* in 1972.

Ffarquhar Branch rolling stock

Perhaps the most interesting items of passenger stock are *Thomas'* coaches, *Annie* and *Clarabel*, which first appeared in book 4. *Annie* was a first/third composite built to 3.5mm scale from 1mm plywood in 1928! It was built by the author while still at school and was based on a drawing published in an issue of *Model Railway News*. It was mounted on Stewart-Reidpath bogies.

Clarabel was built in 1948 when Awdry restarted railway modelling and a brake/third was needed. He adapted the drawing he had used for *Annie* and again used 1mm plywood. Unable to obtain matching bogies, both coaches became mounted on Hambling's wagon bogies. As we have seen, they were finally withdrawn for preservation at the same time as the original *Thomas* which was also to 3.5mm scale - Stewart-Reidpath being the leading exponents of British HO at the time it was built. *Annie* and *Clarabel* replacements were a pair of Exley 4mm scale LNER coaches on Hambling's bogies.

The goods stock was a mixture of Trackmaster and Tri-ang wagons with some scratch-built and kit ones as well.

Ulfstead Road models

This portable layout of the Mid-Sodor Railway had its own collection of OO9 models, most of which did not appear in any of the books. In an early version of the layout these included *John* (Peco *James* kit), *Jerry* (Peco *Jeanette* kit), *Jennings* (0-4-0 from another Peco *James* kit), *Albert* (Minitrains Baldwin as an 0-6-0) and mine engines *Altas* and *Alfred*.

Two characters from this layout that do appear in the books are *The Duke* and *Stanley*. **The Duke** was the 'lost engine' of book 25 and had previously been talked about by *Sir Handel* and *Peter Sam*. The model on the Ulfstead Road layout was a Ffestiniog *Prince* on a Minitrains chassis. At the time I was corresponding



1964 Model Railway Club Exhibition showing 'Toby' Mk. 1 at the rebuilt Ffarquhar Station.

with Awdry in 1989, the model was still running but, according to Awdry, was wheezing a lot! A replacement was built on an Arnold chassis and painted brown like the book illustrations. **Stanley** was a Welsh Highland Baldwin cut down as an 0-6-0 on a Minitrix chassis. It was a poor runner and, like the character in the books, ended up as a static engine and a lesson to all young engines who don't do what they are told! With the final stages of the layout there came *Stuart*, *Falcon*, *Jim*, *Tim*, *Skarloey*, *Rheneas*, *Duncan* and *Peter Sam*. All but *Jim* and *Tim* appear in the books.

Stuart, according to the story, had been on the Mid-Sodor Railway with *The Duke*. The model was painted green. In the books he is renamed **Peter Sam** on joining the Skarloey Railway. Awdry also had a *Peter Sam* in the Skarloey livery with a Giesl chimney. **Falcon** had also come from the Mid-Sodor Railway and the model on Awdry's layout was in blue livery. In the books he became *Sir Handel* when he moved to Sodor. The model was mounted on a Minitrains chassis. **Skarloey** was made from a Gem *Dolgoch* kit and mounted on an Arnold chassis. It was painted in Skarloey Railway livery. **Rheneas** was modelled from a combination of a Gem *Dolgoch* kit and a Peco *James* kit and was given an altered Arnold 0-6-0 chassis. **Duncan** was built from a Gem *Douglas* kit and fitted to an Arnold 0-4-0 chassis. All these engines were still running in 1989.

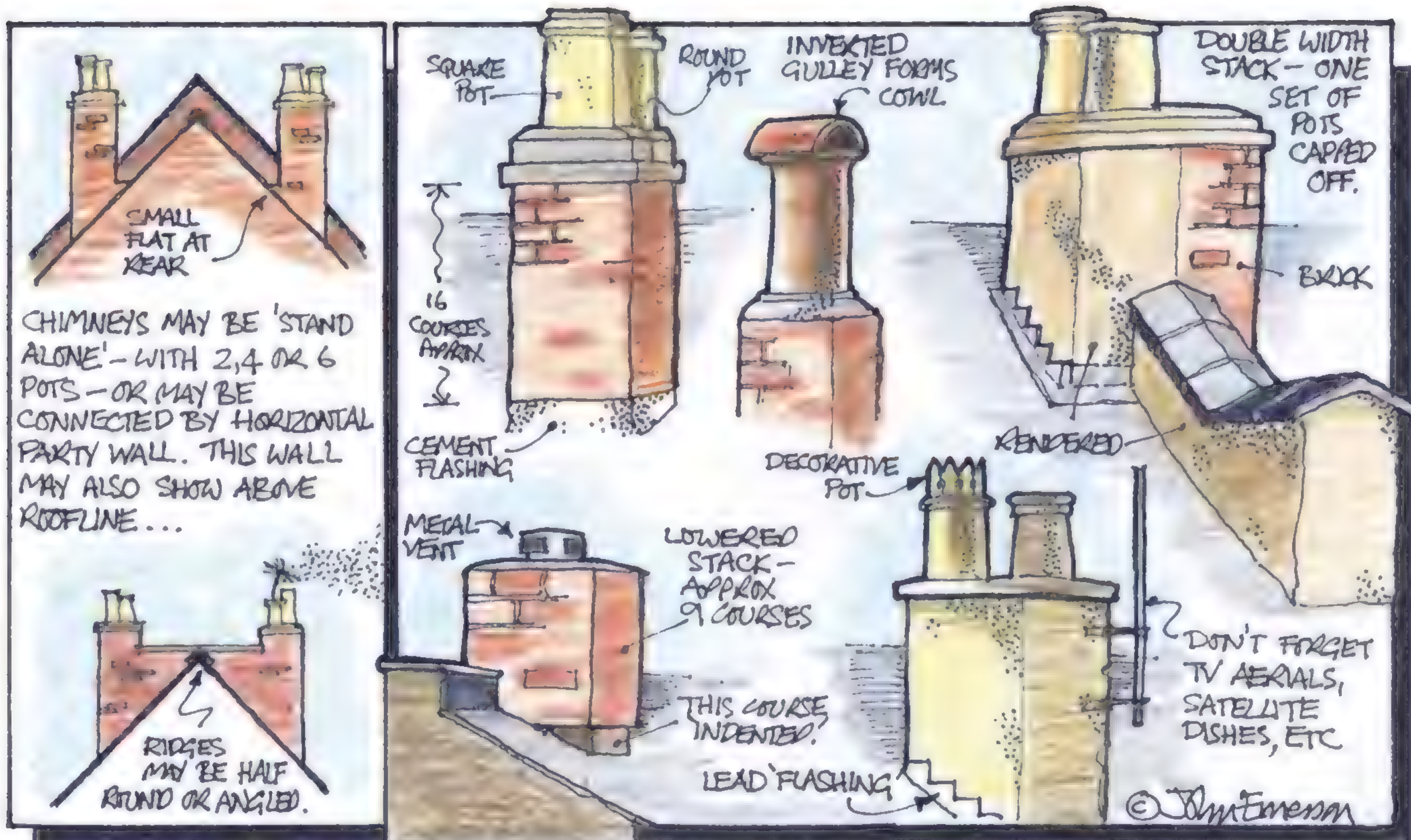
Passenger rolling stock was made from cut-down Tri-ang TT suburban coaches, Egger models, and K's 'bug boxes'. Goods

wagons originally ran on Lone Star chassis but were later replaced by Peco ones. Bodies were mainly Egger while some were scratch-built.

While this account may appear long, it leaves out much information that the Rev W Awdry provided in his letters. Missing is how he built his layouts and also other models which had no bearing on the books. It also misses out characters from the books which Awdry did not have represented on his layouts such as *Bill* and *Ben*, the prototype of which I found in a china clay industry heritage centre in St Austell. Eventually the commercial rights to the 'Thomas' stories and their characters were sold to Britt Alcroft and the children's video stories followed. These set their own idea of what the characters looked like and when Hornby and others came to model them, they were required to take their specifications from the video characters. I received my first 'Thomas' book for Christmas 1946, and this started a lifelong interest in the stories and the man who wrote them.

■ The Narrow Gauge Railway Museum at Wharf Station on the Talylyn Railway includes a reconstruction of the Rev. W Awdry's study at Stroud in Gloucestershire. Wilbert's model of the Ffarquhar Branch has been moved into the study, next to the viewing window so that visitors can see it. Brian Sibley's book *The Thomas the Tank Engine Man* provides fascinating reading, while the Awdry family has a website, with plenty of information and links at: www.aran48.dsl.pipex.com/wilbert.htm

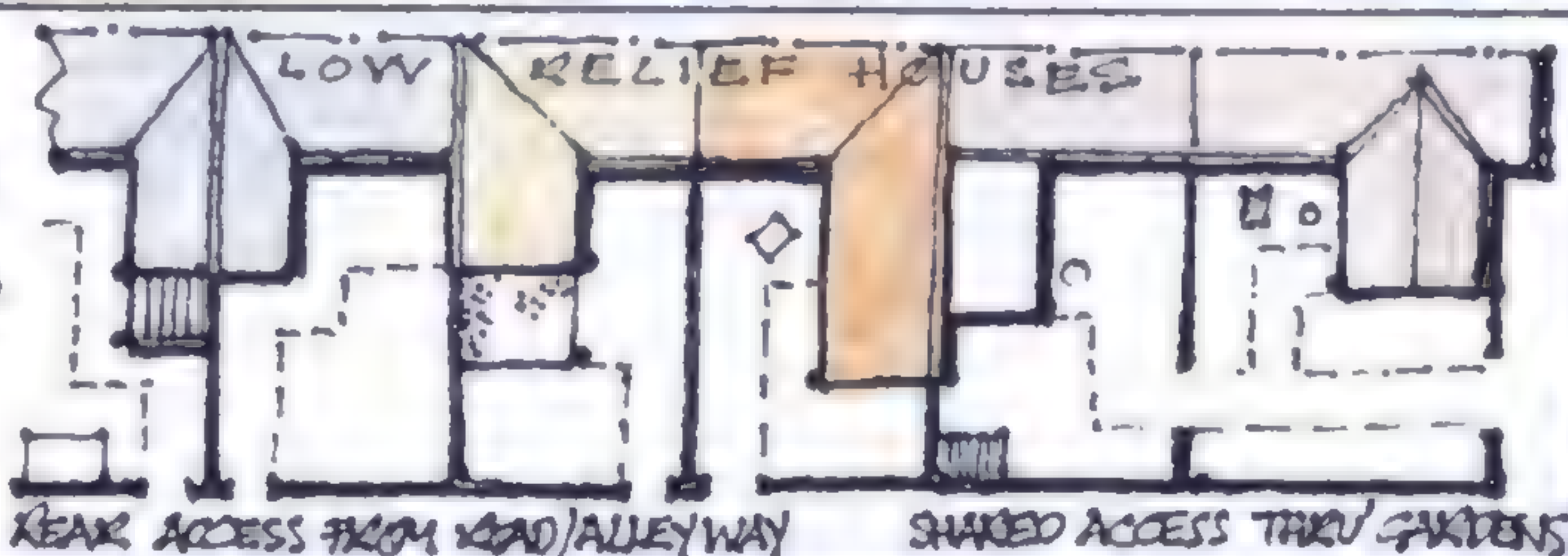
The great outback! Terraced houses are a common enough sight from the train, and there are now plenty of kits and ready-to-use buildings available, but it's worth a look in some detail to get it right. The roofline of terrace houses reveal vast differences in the construction and finish of chimney stacks - brick and render, round and square pots seen on the same stack, etc. Modern practice is to remove or reduce the height of the stack, and cap it with a metal vent - usually if central heating has been installed. Plenty of scope for detailing here! Thanks to Harvey Faulkner-Aston for the use of his original notes.



MANY KITS ARE PRODUCED FOR TERRACED TYPE HOUSES - THESE CAN BE 'BASHED' OR SCRATCHBUILT YOUR OWN...

PLAN
VIEW:

REMEMBER
TO ADD
DOWN PILES,
GUTTERS,
ALSO
MANHOLE
COVERS
IN YARDS.



... A VAST NUMBER
OF VARIATIONS SO
NO TWO HOUSES
WILL BE THE SAME.
A CLOSER LOOK AT
SOME OF THE DETAIL
NEXT MONTH.

TYPICAL REAR ELEVATIONS: WALL FINISHES CAN BE BRICK, RENDER OR STONE.

2. STOREY WING
'BACK TO BACK'.

2-STORY WING
WITH FLAT
ROOF
EXTENSION.

ENLARGED
2 STOREY
WING.

SMALL 2-STORY
WING.

2. STOREY WING
DUO-PITCH

MISSING
HOUSE!

MODEL FROM
STRIP WOOD
OR STYRENE

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John
Fisher



Borchester Market

Charlie Bloomfield describes what's now happening to this most famous OO gauge layout, the creation of the late Frank Dyer.



Derby Lightweight unit has not long arrived from Lincoln whilst the K3 is ready to leave with a Peterborough train.

Well, here's a bit of history for you, why is this being featured in *BRM's* 2007 Annual when it was first shown back in the 1970s? The *MRJ* featured an advert early last year for the sale of Borchester Market and I am sure that memories came back to quite a few

people upon seeing this. Time has moved forward, and myself, Ian Forsyth and Ray Warner eventually obtained the layout from the Dyer family and on a cold wet Sunday in December 2005 it was picked up from Caerphilly, South Wales, and moved to its new home in Sussex.

A lot has been written about this layout in the past. Cyril Freezer as Editor of *Model Railways* at the time handed over the whole of one edition to this layout. Frank Dyer also wrote numerous articles for the model railway press over the years - not your general run of the mill kit-building

article, more of how the running at 12" to the foot related to his 4mm modelling. Not P4 or EM, though, it seems that he was on a mission to show that workable finer scale 4mm could be achieved in OO.

So, why have we got it? Well, we nearly didn't. To visit the layout in South Wales, the M4 looked like a very, very long motorway from Sussex, so what was the point of going, only to be disappointed? Well, it was off, and then it was on again, and the boys in the white coats let me out early one Sunday in October 2005. I ventured down at the legal speed limit to Caerphilly to at least have a look, if no more than out of idle curiosity, perhaps. After a very good welcome from Frank's wife Margaret and son Tony,

the terminus. Somebody is talking to you, but you are trying to take in what you are seeing at the same time. I was amazed! Here was a layout that was 30 odd years old. I knew that what Frank Dyer had produced was something special but the quality of what I was seeing took me back somewhat. Don't forget the age of the layout, and accept that modelling was not so easy in those days. You must remember that this layout was designed with a complete set of working signals. If it's there, it's there for a good reason, I'd never seen so many shunting signals. After a long mobile 'phone call to Sussex to confer, the rest, as they say, is history.

So who are we? Well, we are all members of Newhaven MRC, and between us have membership of the S4 Society, EMGS and DOGA, and the Bluebell Railway Preservation Society as well. Being partially mad might also be an asset. Our primary modelling interests are BR(NE), BR(GN-GE) and BR(W). Ian is up and

the years there has been talk about the 'preservation' of certain layouts, and we all thought that this was a good idea. So, instead of sitting on the fence waiting for it to happen, we decided to do something about it. Our intentions are to preserve as much of the layout as possible and to run it at exhibitions, if invited that is.

It's now July 2006 and like most model railway clubs there are ongoing activities. We have up and coming exhibitions to attend with Ian's Kiln Road layout through to next year and we are currently in the middle of a rebuild, so we are prepared to take our time on Borchester and to carry on with researching for articles on the layout and on Frank Dyer. The layout is now assembled, testing has started, but has not been completed and we have uncovered a few problems. Frank was certainly an exemplary electrician, but we still have many things to learn and understand on the layout circuitry. Most of it still works perfectly, though some repairs are necessary. However, for still photography, any layout doesn't have to be fully operational and we've been lucky in that Tony Wright has been able to mix photography with two of his other loves, cricket and ale, venturing down to the depths of Sussex for the day. Using these new fangled electronic cameras is an art within itself. The picture you see through the lens is the picture it takes, that's why if you look closely you'll see where a few things are missing and some repairs are needed.

Just to give you an idea of what we are finding - plastics seem to go brittle with age, and this has happened to a few of the Ratio lattice signals. It looks like they have been re-glued together on more than one occasion, so two of these signals have already been removed. There were thoughts of using new Ratio kits but we've virtually decided to use MSE brass signals, thus bringing a bit of a dilemma. If we are trying to preserve the layout, even though MSE would be better, should we still be using Ratio?

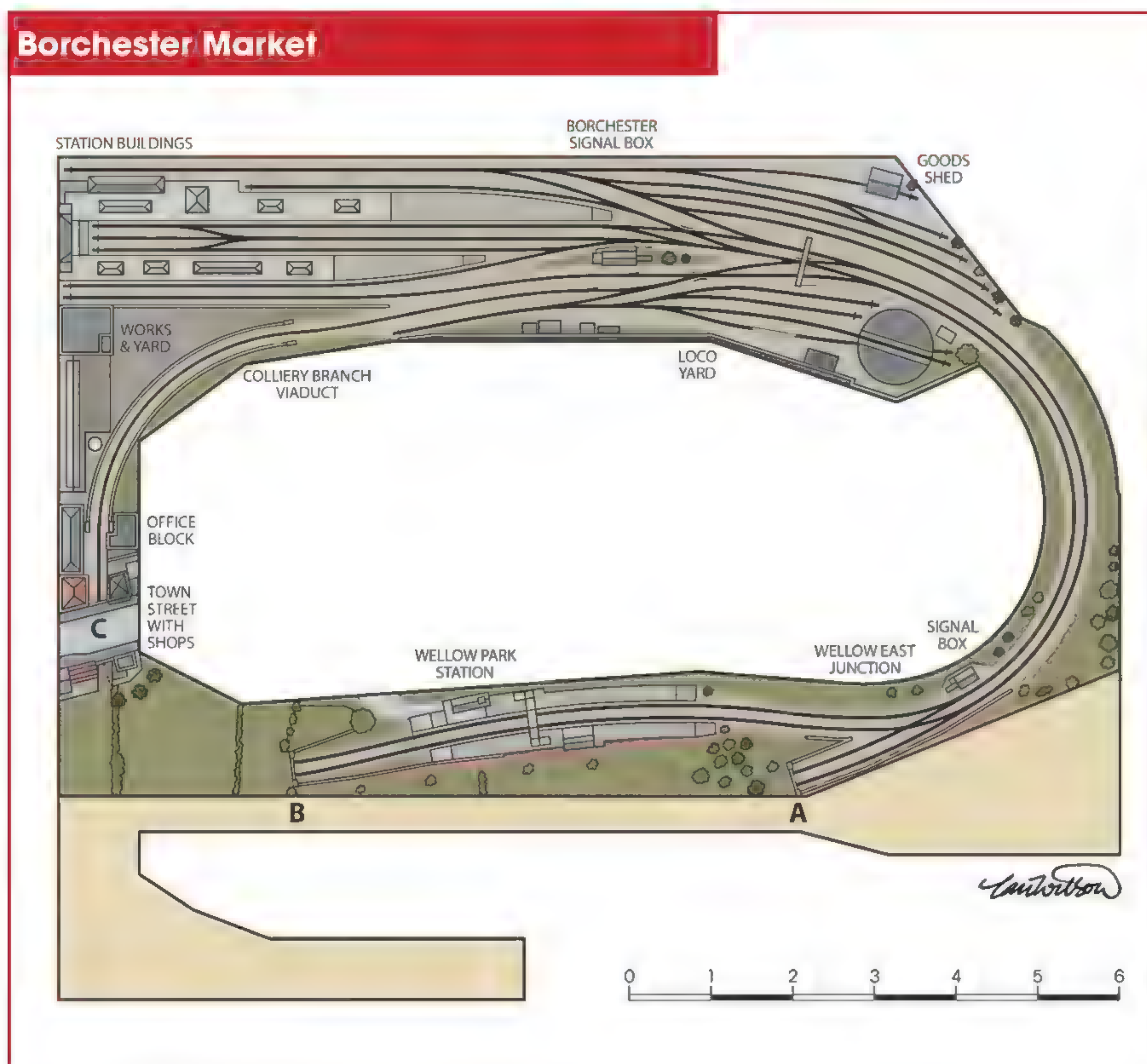
The other weekend a group from our club paid a visit to Didcot and Pendon and a chance chat with one of the guys at Pendon brought out an interesting comment. If you are going to show Borchester Market, should you be reproducing the same models as originally ran on the layout? This implies using the likes of a Nu-Cast B1. We have a couple of Bachmann B1s with Comet chassis and Markits wheels that look better. If we take it to that extreme, which model of a Gresley coach do we use - an old Kirk kit or a new Hornby RTR coach? And remember, much of what Frank ran



I ventured to the garden shed. I had certainly seen the layout before, but could not remember when - possibly over 25 plus years before. Anyhow, I did not know what to expect, so when the door opened, the first thing that caught my eye was the signal gantry at the entrance to

running with an OO gauge layout called Kiln Road, Ray is making a P4 model of Shrewsbury (I am not joking, and he will finish it) and I was meant to be making a BR GN/GE layout in either EM or OO, but Borchester has derailed these plans for the time being. So what are our plans? Over

Borchester Market



Class K3 61867 is seen leaving with empty vans bound for Peterborough. This loco is a South Eastern Finecast kit made by Ian Forsyth. It's very nice and stands up well to the Bachmann model. Even better - it has the right sized wheels!

was scratch-built. When Tony was taking a few of the photographs, I noticed for the first time what he had been rabbiting on about regarding Hornby's latest Gresleys. When you line up one of the new ones, it is very noticeable on the lack of lower body profile (tumblehome I believe) when coupled up to a Bachmann Mk.1 or Thompson. That's something else to think about.

The signal box and goods shed had previously been removed for use on Frank's other layout, Hardwick Grange, now operated by Cardiff Model Engineering Society of which Frank was a long time member. The signalbox you see in the photos is a Prototype card kit that Ray very quickly modified the day before Mr Wright arrived. It doesn't look out of place at all, though the paintwork might need finishing perhaps. Like many things, this has been put into the decision-pending file. As for the goods shed, Phil Parker from Leamington MRC took some photos of Hardwick Grange at their show this year. Ian has drawn up some plans and from these will shortly be making a new shed.

With regard to point operation, it looks like there are just two cranks that need resoldering for all the points to be made operational on the two main station boards. I assume you've heard of wire-in-tube operation, well Frank perfected carpet thread through hoops - no new-fangled electrical switches here. We have little brass levers that you pull and lock to operate a point or signal through the cord - absolutely amazing to see, though

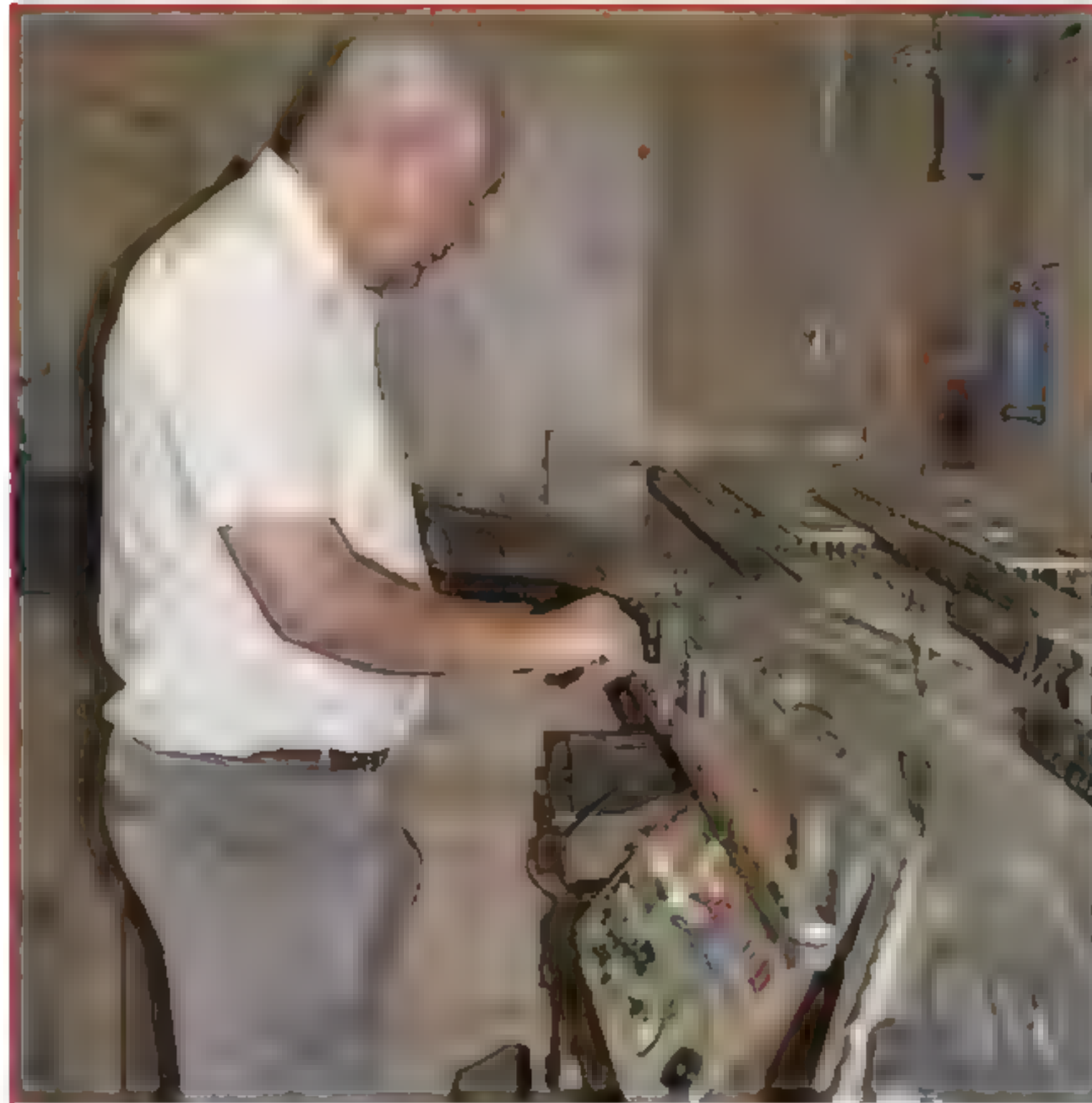


totally horrible to repair.

As for uncoupling, oh dear! Frank was looking for a hands-off approach and devised his own version of the tension-lock. There are a few permanent uncouplers formed of strips of plastic in the middle of the track which are a bit hit and miss. The other uncouplers are actuated by cranks through the cord from the brass levers. Two problems here - Frank had built a loop into his couplings so that it was impossible for the coupling to miss the uncoupler. Modern day tension-locks miss, unfortunately! The second problem is that the actuated uncouplers rise too high, and whilst trying a bit of shunting with a Bachmann O4 diesel, the uncoupler lifted the loco so high that you could have removed the sump plug and given the engine an oil change! Joking apart, because of the underkeep on the likes of the O4 being so low, this is going to give us a real problem that is currently unsolved and we are scratching around for a solution.

If I were to give you a full report on the state of the layout, it would probably take up more than one or two editions of BRM, so I'll just leave you with the thought that the fiddle yard and its pointwork are in excellent condition and that they are worthy of an exhibition within themselves. I think that Norman Solomon would be pleased if it were his own, built to a very high, consistent standard. Whilst the front of the layout will attract the majority, our intention will be to invite anyone who shows more than a passing interest to view the back of the layout and fiddleyard(s) as well.

There is one negative to report, however.



Here's Ray being tested on his lever frame GCSE exam. He failed like the rest of us.



This is the front of the main station control panel. Frank had allocated different colours for the various sections, typically dark blue was used for the approach from Wellow East up to the signal gantry, light blue was from the gantry to the platform approach, orange for platform 3. Each section was then split up into sub-sections - platform 3 can hold a loco at the buffers, one in the middle and one up by the departure signal. Each of the main switches are DPDT, meaning both rails get isolated. As you can see, the red controller on the right of the panel is for departures, there is a blue controller behind my hand on the left for arrivals and out of view on the right is another controller that could be used for the goods yard or the loco yard. So the



This photo depicts the lever frame for the main station board. The levers on the left are for the numerous uncouplers, those on the right are for the few points and signals. All you do is pull the relevant lever out and push it down to lock it in position. All are spring-loaded so you just lift the lever up and it returns to its normal position.



plan was that three operators would be needed on the front of the layout.

This is a view on the underside of the board behind the switch panel, the main switches were previously used by the GPO we believe. The transformer on the right is somewhat open. It works OK, but present day safety rules mean that it will either be replaced or covered. The underside of the board shows the myriad of cords used for operating the various points, signals and uncouplers. We understood that a type of lace had been used here, but have subsequently read that carpet thread was employed. We are going to need one or the other soon to make further repairs.



B1 61354 is seen arriving from Sheffield Victoria. Meanwhile the O2 waits for the signals to proceed to Peterborough, as in the background the L1 has just coupled up ready to shunt the parcels around the station.



A Derby Lightweight DMU is seen arriving from Lincoln. In the shed yard is an ex-works 8F 48154 awaiting its next turn while A4 60008 is being prepared for a return to King's Cross on a filling-in turn.





Class J6 64234 (a prehistoric creation by TW from a WSM kit) approaching Wellow East junction. In the foreground you can see one of the slight problems we are having with a few points. The trailing point here is a bit lazy, the point motor for which is an ex-RAF solenoid and moves across like a bullet. Perhaps that is why it has become slightly loose.



Whilst Mavis waits for the arrival of the London train, the Craven unit departs on a Chesterfield local. Again this has been made from a DC kit by Ian Forsyth and very nice it looks too.



B1 61208 proceeds past the signal box on its way to Peterborough. This is a Nu-Cast B1, its age depicts what was available at the time when Frank Dyer made Borchester Market. The purist will not like the thick wheel faces, and, OK, the painting on the signal box was done with a 4" brush, but the overall impression is very effective.



A busy time at Borchester. The Derby Lightweight is one of Ian Forsyth's, very well made from a DC kit although improvements had to be made to the underframe detail.



L1 67781 is just leaving on a local to Newark and the adjacent B1 will follow later on a Sheffield train. Both models were kindly loaned from Tony Wright's stud, the L1 is from an East Coast Joint Models kit, the B1 a Nu-Cast. One of the attractions of this layout is that it did not look clean. The discolouration you see is not dirt - yes it needed a bit of cleaning - but it had been finished like that, very authentic.



Gresley V2 60858 (latterly fitted with a double Kylchap exhaust) waits to leave on the 16:00 Sheffield-King's Cross express. The O2 waits by the branch starter signal to proceed to Peterborough. This 'Tango' is Tony Wright's PDK model, featured last year in BRM. Impressed by the article, Ian is currently building one. The V2 is a detailed Bachmann loco.

We have found that the platform tops are made of cut Perspex sheet, and while the main station is just about OK, Wellow East has suffered somewhat, possibly as a consequence of the extremely hot weather that we have been having. The sheets have warped alarmingly. The plastic fencing and platform seats were already showing signs of distortion, so we took numerous photos of the station as it was and removed the top surface. The platform was already low and we are trying to find out why. Eventually this will be replaced with card. We have found that the fencing is still available from Ratio and the seats from Peco. However, the station lamps were from Mike's Models, and we have so far been unable to find replacements, for none seems to be available these days.

One thing about the Borchester Market concept was that it had a legitimate reason to accept locos from the Sheffield/Mansfield direction such as B1s, O4/8s, D11s. From the Newark direction would come anything that originated from Peterborough or across from Lincoln or Boston. Thus one might see J6s, K2s, O2s, WDs, 9Fs, V2s, B1s, A1s, A3s, and N2s. From Nottingham would come ex-Midland Region locos - Fairburn tanks, 3Fs, 4Fs, 8Fs and not forgetting that there was a once a day return from Cambridge with a Brush Type 2. We can already fill in with quite a few of these loco types, and I expect that we will also introduce a few other types that might have made it - a PDK D16 on the Cambridge passenger and a DJH B16 on vans from York via the GC. The new Bachmann 'Mucky Duck' would not look out of place, and perhaps we could have a J50 as station pilot (modified Lima).

No stock came with the layout, which has highlighted how lucky modellers are today. If anyone seriously finds anything wrong with the new Bachmann 9F, I think that they should take up a new hobby. OK, the dome cover might be a



A Cravens unit idles away waiting for its next trip to Chesterfield.

bit too pronounced (frog spotting for me on Monday) but it's a superb model at source. Frank had a stud of mainly scratch-built and kit-built locos. Very little was up to standard in RTR form in his day, so far we have worked out that the B1 and O2 were certainly Nu-Cast (although TW thinks the latter was scratch-built by Frank), the Standard 4 2-6-0 and O4 diesel were motorized Airfix and we are still researching others. Modelling is too easy nowadays, unfortunately to the detriment of the kit manufacturers. We need to support the likes of South East Finecast and DJH, otherwise they will not be making any new kits for us tomorrow!

We are treating the whole Borchester revival as an adventure. Taking the layout to an exhibition certainly will be, because just moving it to Sussex was like moving home. We understand that a furniture van was used to take it to certain exhibitions. We have already had offers of help. Research through DOGA's Alvar Yorke and Stephen Siddle has shown that one of the Hornby transformers that is used on the layout might be from the 1940's, and there is another transformer that may even pre-date that. These will be replaced,

but could still be exhibited. Currently a 240V main runs around the underside of the boards via choc block connectors. I am sure that exhibition managers would love this! Electrics cannot last forever in a safe manner and a replacement of this arcane (though legitimate in its day) system is a priority.

The relays under this layout are there for a reason. For instance, it's impossible to make a false movement through Wellow East junction. Most circuits are protected by these alongside the track that the loco wheels will run over, thus tripping a relay that will change a signal or set other relays to normal - all extremely clever!

Hopefully, in time some of you will be able to see this layout at forthcoming exhibitions. In the meanwhile I will leave it to Tony Wright's photos. Because our planned construction of suitable locomotives will take time to fully implement, Tony kindly brought some of his own appropriate motive power for the photo shoot. When Borchester Market is exhibited again it will be fully populated with our own stock.

K3 61867 prepares to leave with a Cambridge train. I wonder if we should eventually do something about that water crane sitting on the platform?



West Country bound

Eric Sawford remembers a 'shed bash' from the 1950s. Photography by the author.



For most of the year the Lyme Regis branch required only one engine. No.30582 is ready to leave the popular seaside resort on its return journey to Axminster on September 3. Built in 1885 by R. Stephenson, 30582 completed an amazing 76 years in service.

During the 1950s six veteran locomotives, all built in the 19th Century by the London South Western Railway, were still at work in the West Country. These had long outlived their classmates having been specially retained for working where weight and other restrictions applied. Many readers will no doubt have already guessed their identity as they were a 'Mecca' for enthusiasts at the time. For those unfamiliar with the steam locomotives of the day, I am referring to the three Adams 4-4-2 'Radial' tanks on the Lyme Regis branch, and the three 0298 Class Beattie 2-4-0 well tanks, quietly going about their business in North Cornwall.

Glorious Devon

During the '50s the majority of people still travelled by train for their annual holiday. As a result summer Saturdays were busy times on the Lyme Regis branch and two of the Adams 4-4-2Ts were to be seen double-heading heavily loaded trains. At other times just one engine was sufficient for the branch duties. By 1928



The train that was to take me to the first call - Salisbury - on my West Country trip. The 'Atlantic Coast Express', headed by rebuilt 'Merchant Navy' No.35020 *Bibby Line* is seen here ready to leave Waterloo on September 3, 1956.

only two of these engines remained out of what was originally a 72 strong class. After the war both engines were ready for a general overhaul. It came to

the notice of the Southern Railway that a third example, sold out of service by the LSWR in 1917, was still intact and to be found on the East Kent Railway,

albeit in a rough condition having spent several years out of use. Despite this, the engine was purchased in 1946, given an extensive overhaul, and returned to service. All three of the last surviving Adam engines were built in 1885, the first member of the class having appeared three years earlier. Rather surprisingly they were built by three different private companies, No.30582 by R. Stephenson, No.30583 by Neilson & Co. (this was the one purchased from the East Kent Railway), with No.30584 built by Dübs & Co. One has survived into preservation, No.30583, this has, for many years, been at the Bluebell Railway.

The Southern Region had just one locomotive depot in Cornwall. This was to be found at Wadebridge, small maybe, with an allocation of just five engines. This was home to the three veteran Beattie 2-4-0 well tanks, a design introduced in 1874 and rebuilt by three locomotive Superintendents over the years. The reason for long outliving their classmates - the last withdrawal being as long ago as 1898 - was that they were the motive power for the Wenford Bridge mineral line. One locomotive

was normally in use on the branch daily. Another was employed on shunting work at Wadebridge, while the third was held in reserve to cover, maintenance, possible failures, or when works attention to a classmate was required.

Many attractions

Having briefly outlined just some of the interesting locomotives to be found in the West Country, a visit soon became high on my list, not just Southern depots but also to those of the Western Region. After planning the route, the next stage was to apply for shed permits. Fortunately, both regions would issue these to individuals.

With rail ticket organised, my journey commenced at Waterloo station on the 'Atlantic Coast Express' headed by rebuilt 'Merchant Navy' No.35020 *Bibby Line* of Nine Elms shed. My first visit was Salisbury, this was a Southern Region depot but you could always find Western engines being serviced. The largest locomotives allocated were four 'Merchant Navys', and seven of the Bulleid lightweight Pacifics. 'King Arthurs' and the development for mixed traffic work, classified S15, were also

to be found there. The depot also had a small stud of the graceful T9 class 4-4-0s known as 'Greyhounds'. These worked passenger, parcel trains and fast goods.

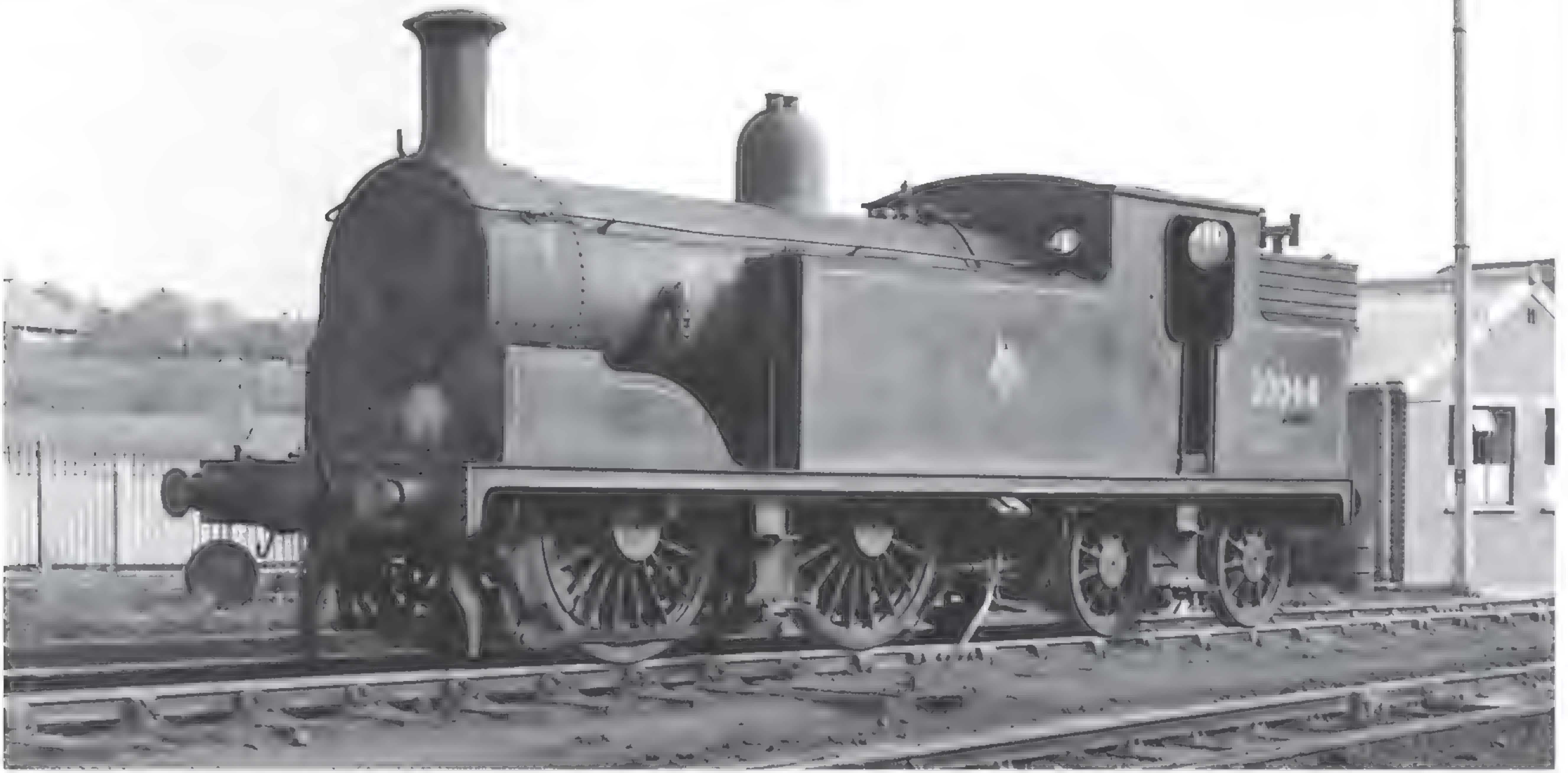
My next call was at Axminster, certainly one of the highlights of my tour as this was the main line connection for the Lyme Regis branch. The day had been carefully planned so I could travel over the branch. The locomotive in charge was No.30582. All three of the Adams 'Radial' tanks were allocated to Exmouth Junction depot. For most of the year just one engine was required, being changed on a regular basis for boiler washout, etc. It had been a long, very enjoyable, day by the time I arrived at my overnight accommodation in Exeter.

My first visit of the following day was to Exmouth Junction, a large shed with, among its allocation, a considerable number of Bulleid Pacifics - 'Merchant Navy', 'West Country' and 'Battle of Britain'. There were still many other types of LSWR origin allocated, for example 0395 and 700 Class 0-6-0s, a sizable number of M7 0-4-4Ts and, as would be expected, also T9 class 4-4-0s which were used on secondary lines in the area.



West Country' Class No.34038 Crediton of Brighton shed awaits its return working at Salisbury on September 3, 1956. This locomotive was built in 1946 and rebuilt in March 1959, three years after this picture was taken. It remained in service until March 1966.

Examples of the Drummond M7 0-4-4Ts introduced by the LSWR in 1897, were to be found at numerous depots and on very different duties. These ranged from branch passenger trains to working empty stock into and out of Waterloo station. No 30044, seen here at Exmouth Junction on September 4, 1956, would almost certainly, at times, have been used on banking work between the two Exeter stations.



Western territory

Exeter also had a Western Region depot, which came within the Newton Abbot District. The allocation was just 32 locomotives including two members of the 'Castle' Class and several 'Halls'. It was then on the train again, this time for the short journey to Newton Abbot, principal shed of the 83 District. Among the engines on shed was a very interesting rebuild, No. 4900 *Saint Martin* which, by coincidence, was at Penzance depot the next day. No. 4900 *Saint Martin* started its working life as 'Saint' Class No. 2925. In 1924 the Great Western was in need of a powerful mixed traffic locomotive. Rather than build a completely new prototype it was decided to rebuild a 'Saint' and to carry out a lengthy testing programme which was certainly the case as it was to be four years before construction started of the new class known as 'Halls'. These were to become a very successful design handling many types of train. In 1936 a development was introduced with smaller wheels, 80 being built incorporating parts from withdrawn 43xx Class 2-6-0s, these were known as the 'Grange' class.

Engines from Newton Abbot were frequently to be seen at Bristol and Penzance. The principal passenger engines were 14 members of the 'Castle' Class which, for a number of years included No. 7029 *Clun Castle*, with members of the 'County', 'Hall' and 'Grange' classes also in the depot's allocation.

Although not the principal shed of the

district, Plymouth Laira was much larger with well over 100 locomotives ranging from 12 'King Class' 4-6-0s to a sizable number of 'Castles'. Among them was No. 4037 *The South Wales Borderers*, one of those rebuilt from a 'Star' Class, together with 'Counties', 'Halls', 'Granges' and 'Manors'. For me it was the sturdy 0-6-0 saddle tanks of the 1361 Class that I was particularly keen to record on film. Laira had four of the five strong class, which was introduced in 1910 to a Churchward design for dock shunting. Luckily just one was on shed and in the process of being made ready to leave for its next spell of duty. Laira included a roundhouse; it was a busy depot with a considerable number of engine movements constantly taking place.

Plymouth also had a second shed - Friary. This was a Southern Region depot, not a large shed, with mostly tank locomotives including several B4 Class 0-4-0Ts. It did have four of the 'West Country' Pacifics, The two 0-6-2Ts of the 757 Class, *Earl of Mount Edgcumbe* and *Lord St Levan*, were unfortunately out at work. My final call of the day was Wadebridge, another of the highlights. Unfortunately, the weather was far from being settled, with dull conditions and periods of light rain which changed to heavy, driving rain shortly after my arrival!

The final day

I had just three more depots left to visit, St. Blazey, a difficult shed for photography as

it consisted of a half roundhouse with tight entrances to the shed roads, complicated by sets of doors. This, as it happens, was not a problem, as most of the depot's allocation was out at work. Just one example of the predominant lightweight 2-6-2Ts, No. 5519, was standing outside. While in the area I made a short detour to the harbour at Port of Par to photograph the two cut-down Peckett 0-4-0STs.

Truro was another fairly small shed with just over 20 locomotives, the most powerful engine in its allocation being a solitary example of the 'County' Class introduced by Hawksworth in 1945. Three 'Halls' and a 'Grange' were the only other tender engines. The remaining locomotives were 2-6-2Ts and 0-6-0 Pannier tanks. It had been another busy day and it was well into the afternoon when I arrived at Penzance. I well remember the considerable walk from the station to the locomotive depot. Much to my surprise standing outside were the two rebuilds already mentioned, *St Martin* and *The South Wales Borderers*. Unlike Truro the allocation of Penzance was principally tender engines, the highest number being 'Granges', closely followed by 'Halls' with just one each of 'County' and 'Castle' classes. Towards the end of the decade three more 'Counties' were allocated and one extra 'Castle'. The 'Halls' and 'Granges' remaining similar in number.

My visit to the West Country had proved very successful, I would have liked to return but who thought in 1956 that steam would, within a few years, have gone forever?



The surviving Beattie 0298 Class 2-4-0 well tanks were to attract many enthusiasts to Wadebridge and the Wenford Bridge mineral line, their principal duty. The class was introduced in 1874; the three survivors were re-built by three Locomotive Superintendents during their long working lives, outlasting their classmates by a great many years. No.30586, seen here at Wadebridge on September 5, was slightly different to the other two with extended tanks.

Two of the Beattie engines were at work at the time of my visit, No.30585 on the Wenford Bridge mineral branch and No.30586 shunting at Wadebridge. The third engine, No.30587, in reserve, was found in the small two road shed which had an allocation of just five engines, the three mentioned above plus two 02 Class 0-4-4Ts.



No.30585, the branch engine, arrived back at Wadebridge shed in a heavy rainstorm. Rather than losing the opportunity to take a photograph - as it was late in the day, I managed to get this shot - the driving rain can be seen clearly in the picture taken on September 5, 1956.



The graceful T9 class 4-4-0s, known by the nickname 'Greyhounds', were extensively used in the West Country on cross-country and branch lines, and elsewhere, in former LSWR and LBSCR territory. No.30301, seen here at Salisbury on September 3, 1956, was built at Nine Elms works in 1900. It remained in service until August 1959 and ended its days at Ashford works.



In the early 1920s the Great Western Railway had a requirement for a mixed traffic 4-6-0 capable of handling many different types of work. In 1924 Charles Collett rebuilt 'Saint' Class No.2925 *Saint Martin* for extended testing. The rebuild had 6' driving wheels as opposed to 6' 8.5", cab with side windows and other modifications. The engine proved to be very successful with production of the 'Hall' Class as they became commencing in 1928. Prototype No.4900 *Saint Martin* is seen here at Penzance depot on September 6, 1956. No.4900 was the first of the class to be withdrawn in April 1959.



'Castle' Class No. 4037 *The South Wales Borderers* was one of those rebuilt between 1925-9 from a 'Star' Class. It had the distinction of being the last of the rebuilds to remain in service, surviving well into the 1960s. No. 4037 is seen here at Plymouth Laira depot on September 5, 1956.



In 1910 Churchward introduced the 1361 Class 0-6-0STs for dock shunting, just five were built. No. 1361, the pioneer engine, is seen here taking water at Plymouth Laira on September 5 prior to commencing its days work.



The sturdy B4 Class 0-4-0Ts, introduced in 1891, were designed by W Adams, principally for shunting at Devonport docks, but also station pilot duties elsewhere. In Southern Railway days some carried names. Several engines later purchased by private companies were to see further service in various parts of the country. No 30094 is seen here at Plymouth Friary shed on September 5, 1956.

St Blazey depot had a sizable number of the lightweight 2-6-2Ts in its allocation. On September 6 No.5519 stands outside the shed which in the mid-'50s had a total of 37 engines in its allocation.





The Southern Railway introduced the powerful Z Class 0-8-0Ts in 1929. The entire class of eight was constructed in that year at Brighton works. No 30950, seen here at Exmouth Junction on September 4, 1956, was the first to be completed. In August 1959, after initial problems, the Z Class were permitted to act as bankers between Exeter Central and St David's station. Eventually all eight were allocated to Exmouth Junction. The entire class was withdrawn in late 1962.



No.1002 *County of Berks* was the only example of the 'County' Class allocated to Penzance in the mid '50s. Introduced in 1945, these engines with their 6' 3" driving wheels were very successful on steeply graded routes. Photographed on September 6, 1956.



The train crossing the viaduct with the ravine clearly shown. The path under the viaduct leads to the lower Falls and comes from the car park near the Dolgoch Falls Hotel.

Dolgoch

Nigel Adams looks at a working diorama built for the Talylllyn Railway Preservation Society in 1956, and now back in the care of the TRPS.

Dolgoch is a portable diorama depicting Dolgoch station and viaduct on the Talylllyn Railway which, as many readers will know, was the first preserved steam railway in the world and is based in Tywyn in Mid-Wales. It was built as a centrepiece for the Talylllyn Railway Preservation Society London Area Group stand at exhibitions and first appeared at the Model Railway Club's Annual Exhibition at Central Hall Westminster in April 1956.

It created a lot of interest at the time because it was unusual in three respects:

- Such small working models were rare in 1956. This was long before N gauge appeared on the scene. It is built to 4mm scale and the track gauge is 8mm compared with the more usual 9mm for OO9.

- It operated automatically.

- It was totally enclosed in an illuminated cabinet. This soon earned it the nickname of 'The Aquarium' while some called it 'The Fish tank'.

In the mid 1950s there were no readily available electric motors small enough to fit in to the model of loco No.3 (Sir Haydn) so a Tri-ang XO4 motor was adapted to

fit in to Van No.5 (the brake van/booking office) which is permanently coupled to the locomotive. The model was built by the late Keith Bannister and, due to the need to be portable, it is somewhat foreshortened compared with the prototype. However, it really captures the atmosphere of the prototype which was markedly different back in the 1950s to how it is today.

The only major changes in the model have been the addition of the footbridge leading to Dolgoch Falls in 1958 and a partial scenic renovation for an appearance at the 1982 Shrewsbury Model Railway Exhibition.



A view from the past - this black and white photo shows the layout at the 1956 Model Railway Hobby Show. Unfortunately I cannot credit it as the photographer is unknown, but it is now part of the TRPS collection as it came with the layout. TRPS Collection

The train consists of *Sir Haydn* hauling the three original Brown Marshall coaches and the brake van delivered to

the TR when it opened in 1865. Normally the loco works chimney first towards Tywyn as it did in the early 1950s on the

prototype compared with today when locos work chimney first in the opposite direction, ie: towards Nant Gwernol.

The model made many appearances at shows in the London area in the late 1950s and 1960s and then it was 'mothballed' until the 1982 Shrewsbury exhibition mentioned above.

It is also fair to say that the automatic operation which was practical in the 1950s and 1960s lacks the smoothness now available with modern electronics but, 50 years ago, it was way ahead of its time. Because of its age it cannot represent today's materials and modelling standards.

The track is all hand-built and the layout can be operated manually or automatically. If the latter, the train does one circuit and stops at the station. It runs at two minute intervals and is controlled by dropping resistors across the rails which, in turn, are controlled by a 'Uniselector'. For the uninitiated like me they were used in telephone exchanges



The layout on display at Guildex 2005.



The train crossing Dolgoch viaduct. The bridge in the background leads to Dolgoch Falls. In real life the viaduct is 53' high.

When Keith Bannister died in 2001 the layout went to David Yorke but was stored in David Ratcliff's house. David was an excellent modeller himself and a volunteer driver for many years on the TR. When David Ratcliff died it was given back to the TRPS. Bob Hey and I changed the mains input and a little of the wiring for a modern power unit but we left the original mains wiring and transformer *in situ* so as to preserve the layout as it was built.

Through the generosity of Gethin Williams we were able to take the 'Aquarium' to the Gauge O Guild's Guildex event at Telford in 2005. Although not O gauge, it attracted a

The end of the layout showing the control panel and the electrical 'gear'. Bottom left is the old aircraft timer and in the centre is the Uniselect. The box on the right contains the rolling stock and pasted to the front is a poster for the 1963 Model Railway Exhibition at Central Hall at which the layout was shown on the TRPS stand.

in the early 1950s. The timer is from an aircraft!

The layout is transported in two halves and stands on short legs on a table. The panels slide into runners which make up the 'cabinet'. There is even a 'clock' which tells you how many circuits have been completed during the day. From records we have the train has done between 248 and 430 circuits per day at shows!



great deal of interest on the TRPS stand and we received a number of enquiries as to whether it could be taken to other shows. The answer is YES but, for obvious reasons, we have to limit the number of shows it attends.

■ If anyone is interested in 'The Aquarium' (or the Reverend Wilbert Awdry's Ffarquhar Branch, also now in the care of the TRPS) appearing at an exhibition, they should contact me or Steve Thorpe, c/o Talyllyn Railway, Wharf Station, Tywyn, Gwynedd LL36 9EY. Steve has been appointed by the Council of the TRPS to look after the layouts.

View from above Dolgoch station with the original water tower near the train which is facing in the Tywyn direction.



Gothic splendour

Allan Downes' magnificent 2mm scale cathedral photographed by Tony Wright.

Of all the commissions undertaken by model builder extraordinaire Allan Downes, this must surely qualify as his most magnificent creation. This cathedral was built for a 4mm scale layout, although it was actually built to 2mm scale as it would have been a colossal undertaking in 4mm. It measures almost three feet to the top of the spire, and is around four feet long by some two feet wide. It was built several years ago

for London restateur Cavaliere Mimmo Mattera.

Inspired by several well-known ecclesiastical landmarks, close inspection reveals the typical Downes hallmark touches - the 'Bishop's eye' is the remains of a margarine tub, and aren't there some familiar - if now saintly - Airfix figures looking down from the cathedral walls?

Of course, there aren't many layouts in any scale that can boast a cathedral, and





while we could think of one or two in the BRM office, we are sure that none of them also included a fully detailed interior. The splendidly realistic altar setting with its rich marble columns is a masterpiece in itself. Allan tells the story in his own words.

Stone giants

Cathedrals. In a word, massive, on a model railway, colossal. So, why build one? Well, I was 'told' to and of course you don't argue with clients - 'What the hell do you want a cathedral for, have a couple of lamp huts instead' - but they won't listen. The specification here then was to build a cathedral of uncertain origins that looked like Amiens from the front and Notre Dame from the back, and with heaven knows what in between and to fit into a given area of just 4' 0" x 2' 0". As I said, you don't argue!

It was built for a large 4mm layout and the only way it was going to happen was to build it at half scale - 2mm to the foot - and yet still maintain a sense of presence and spectacle: as Cathedrals were intended to do. To describe fully and in just so many words what went into the model and how it was built would be impossible here and take volumes. And volumes of Downes isn't good for anyones health! So, at best all I can do is to touch very briefly on the subject.

The entire structure was built out of 0.5mm thick grey card with the inner and outer detailing built up over the shell. In consequence this gave the walls a final depth of over 60mm, in the process giving immense strength and building in integrity (it didn't give me much of either!). Most of the finer detailing - acres of it - was either built up in styrene or white metal fittings where a master was made up and sent off for casting; it was the only way to guarantee a continuity of profile and pattern. As for planning it all out, this was a totally hit and miss affair taking in some very strange concepts of geometry, and was largely down to knocking up mock-ups where everything really depended on what looked right and what didn't. Most of the time it didn't!

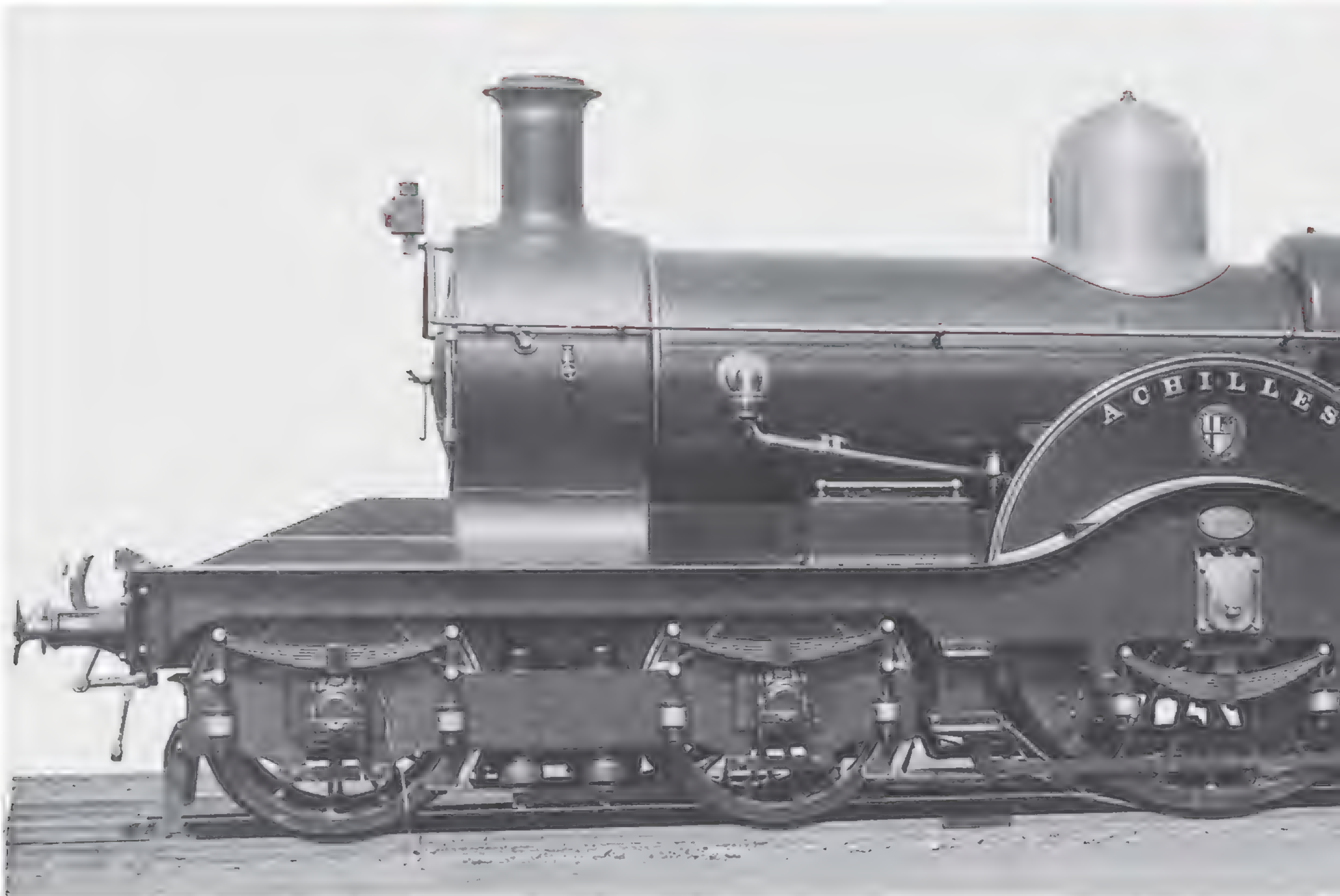
It took six months to build, two of which were spent on studying books relating to prescribed building data, something that by no means can be reliably recorded for apparently the original builders - heroes to the last man - didn't have much idea either and in consequence, and more often than was hoped for, ended buried beneath mountains of masonry as the result of uncertain geometry. They had very little idea as to what it would take to support



hundreds of tons of vaulted ceilings - and even less ideas on how to build scaffolding. But, of course, we in our small make believe world, don't need to

know any of this either so why not get a hundred weight of card and plastic and have a go? I'm sure you couldn't do any worse than I did!





The Dean 'Singles'

Hornby's release of a 25th Anniversary 'Lord of the Isles' train pack prompted **Michael C Shaw** to investigate the GWR 3001 'Achilles' Class. Photography as credited, paintings by **Nigel Digby**.

When Tri-ang introduced their model of the Dean 'Single' *Lord of the Isles* (R354/R37) with matching all-third and brake third clerestory coaches (R332/333) in June 1961, I'm sure that they had little idea what effect it would have on a whole generation of schoolboy modellers. I had to wait some years for my parents to purchase one for me as a combined birthday/Christmas present. At last, I had arrived and could run a scale, period model - albeit with a little 'tweaking' - with the best of the adult fraternity. My model had 'Magnadhesion', but I still added balancing weight in the dome, under the footplate, cab roof and top of the fire box. She ran like the wind with her Scalextric-derived XT60 motor, and still does - 40 years on!

She was followed by Caledonian 'Single' No.123 using the same chassis, introduced in the autumn of 1963. The *Lord of the Isles* appeared sporadically over the following years until 1981. Now Hornby are producing a 25th Anniversary *Lord of the Isles* Limited Edition Train Pack (R2560), with re-engineered chassis and motor - manufacturing processes and materials have changed considerably over the last 25 years and that XT60 motor is no longer available! Personally, I think Hornby have overestimated the popularity of the introduction of the M7 and N15, plus some old Lima models, and drastically underestimated the re-introduction of the 'Achilles' Class bogie Dean 'Single' - believe me, and I speak primarily as a 'Southern' modeller!

Prototype

When introduced in 1891, the 3001 Class 2-2-2 Dean 'Singles' were somewhat ungainly locomotives, part of a renaissance of single wheelers after the introduction of steam sanding. The driving wheel diameter of 7' 8½" restricted the boiler diameter to 4' 3". To provide sufficient heating surface a boiler of 11' 6" length was provided which made the engine front heavy and unsteady at speed. Of the 30 locomotives ordered, it was intended that ten would be built to broad gauge (7' 0¼"), although in the event only eight were so constructed. (Nos.3021-8). The Great Western took over a quarter of a century to convert their 'superior gauge' to standard



Doyen of the classic Great Western 4-2-2s - No.3031 *Achilles* at Swindon in as built condition. FT Moore/M C Shaw Collection

gauge (4' 8½"), completing the task in May 1892.

Following the derailment of 3021 *Wigmore Castle* at speed in Box Tunnel in September 1892, the 30 members of the 3001 Class (Nos.3001-30) were converted to 4-2-2 types with extended frames over the new leading bogie. The derailment was caused by excessive wear in the leading axleboxes which the GWR operating department had already identified as a problem. The

underslung rear trailing wheel spring was later altered to above the running plate in common with the later series of 50 bogie 'Singles' (Nos.3031-81). What resulted was a class of 80 of the most classically proportioned locomotives ever to grace any railway in the world - until many were rebuilt that is! They were in fact followed by the equally well proportioned and virtually interchangeable 'Armstrong' 4-4-0s. Nominally broad gauge

rebuilt, No.7 *Armstrong*, No.8 *Gooch*, No.14 *Charles Saunders*, and No.16 *Brunel* only re-used their four 7' 1½" driving wheels and their (traditional) late broad gauge brass (numerical outline) numbers instead of the later oblong or oval plates of the combination type.

Whereas all the 'Singles' had gone by 1916, the much rebuilt 4-4-0s continued until withdrawal between August 1928 and July 1930. From

Official photograph of No.3035 *Beaufort* after renaming in December 1895. Built in July 1894, she originally bore the name *Bellerophon*. M C Shaw Collection

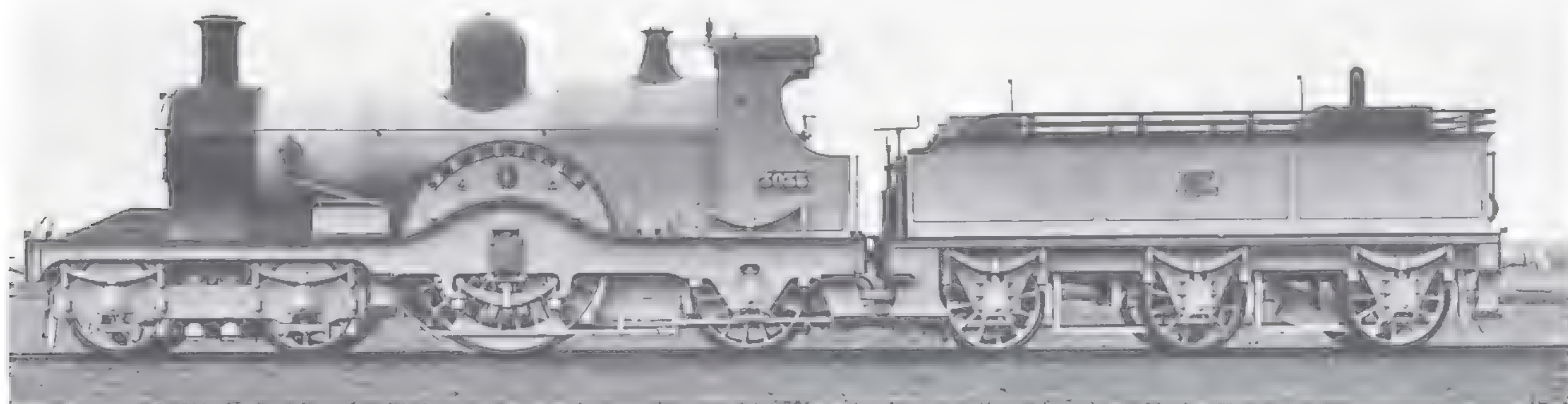




TABLE 1: 3001 Class 2-2-2
Built Swindon 1891-2

Lot	Nos.	Date
84	3001-20	1892
86	3021-30	1891

3001 Amazon
 3002 Atalanta
 3003 Avalanche
 3004 Black Prince
 3005 Britannia
 3006 Courier
 3007 Dragon
 3008 Emperor
 3009 Flying Dutchman
 3010 Fire King
 3011 Greyhound
 3012 Great Western
 3013 Great Britain
 3014 Iron Duke
 3015 Kennet
 3016 Lightning
 3017 Nelson
 (renamed Prometheus 5/95)
 3018 Racer
 (renamed Glenside 9/11)
 3019 Rover
 3020 Sultan
 3021 Wigmore Castle *
 3022 Rougemont *
 (renamed Bessemer 1898)
 3023 Swallow *
 3024 Storm King *
 3025 St. George *
 (renamed Quicksilver 5/07)
 3026 Tornado *
 3027 Thames *
 (renamed Worcester 12/95)
 3028 Wellington *
 3029 White Horse
 3030 Westward Ho

Notes

* Last ten locomotives ordered as broad gauge 'convertibles', but only eight actually built (3021-8). Converted to standard gauge 1892. Engines built in two batches with broad gauge locos on later lot number completed first. All converted to 4-2-2 in 1894.

TABLE 2:
3031 'Achilles' Class 4-2-2
Built Swindon 1894-5/1897-9
Converted from 2-2-2 1894*

Lot	Nos.	Date
84	3001-20	1894*
86	3021-30	1894*

94	3031-40	1894
95	3041-60	1894/5
110	3061-80	1897/9

3031 Achilles
 3032 Agamemnon
 3033 Albatross
 3034 Behemoth
 3035 Bellerophon
 (renamed Beaufort 12/95)
 3036 Crusader
 3037 Corsair
 3038 Devonian
 3039 Dreadnought
 3040 Empress of India
 3041 Emlyn
 (renamed James Mason 1897,
 renamed The Queen 6/10)
 3042 Frederick Saunders
 3043 Hercules
 3044 Hurricane
 3045 Hirondelle
 3046 Lord of the Isles
 3047 Lorna Doone
 3048 Majestic
 3049 Prometheus
 (renamed Nelson 5/95)
 3050 Royal Sovereign
 3051 Stormy Petrel
 3052 Sir Walter Raleigh
 3053 Sir Frances Drake
 3054 Sir Richard Grenville
 3055 Trafalgar
 (renamed Lambert 7/01)
 3056 Timour
 (renamed Wilkinson 7/01)
 3057 Tartar
 (renamed Walter Robinson 7/01)
 3058 Ulysses
 (renamed Grierson 5/95)
 3059 John W. Wilson
 3060 Warlock
 (renamed John G. Griffiths 3/08. Name
 removed 3/14)
 3061 Alexandra
 (name removed 11/90, renamed
 George A. Wills 10/11)
 3062 Albert Edward
 3063 Duke of York
 3064 Duke of Edinburgh
 3065 Duke of Connaught
 3066 Duchess of Albany
 3067 Duchess of Teck
 3068 Duke of Cambridge
 3069 Earl of Chester
 3070 Earl of Warwick
 3071 Emlyn
 3072 North Star
 (name removed 1906, renamed

Bulkeley 9/06)
 3073 Princess Royal
 3074 Princess Helena
 (name removed 4/14)
 3075 Princess Louise
 3076 Princess Beatrice
 3077 Princess May
 3078 Eupatoria
 3079 Thunderbolt
 3080 Windsor Castle

Notes

50 built from March 1894, 22 also converted from 3001 Class 2-2-2 (3001-20/9/30). Nos.3021-28 rebuilt from broad gauge 3001 Class 2-2-2 (numbers and names in Table 1). Converted locos have underslung springs and wider cab.

TABLE 3: Rebuilt 3031 Class 4-2-2 (Diagram C)

3004/13/16/18/27/33/39/48/52/58/67/70/79

Notes

3027 first loco converted March 1900. Rest rebuilt 1905-6 with No.2 boiler, new higher and wider cab, tenders with plated over coal rails. All withdrawn by February 1912.

TABLE 4: Rebuilt 3031 Class 4-2-2 (Diagram D/F)

Tall narrow chimney, new style bogie, some locos with top feed.

Diagram D applied to only three locos

3015/49/50

Diagram F

First applied to Diagram 'C' rebuild No.3070 June 1910

3006 (9/10); 3009 (9/11); 3013 (10/10); 3018 (12/11); 3027 (3/11); 3032 (3/11); 3039 (3/11); 3043 (4/11); 3045 (9/11); 3048 (7/10); 3049 (8/10); 3050 (2/14); 3052 (3/11); 3055 (8/11); 3058 (9/10); 3060 (6/11); 3062 (8/11); 3065 (12/10); 3066 (6/11); 3067 (9/11); 3070 (6/10); 3071 (11/10); 3074 (11/11); 3080 (7/10).

Only three locos were rebuilt to all three Diagrams - 3013/8/27.

ABOVE LEFT: An unidentified 'Achilles' Class 4-2-2 at speed, c.1906. Captain W F Kelly/M C Shaw Collection

LEFT: A special train awaits departure from Paddington double-headed by a pair of Dean 'Singles' in this pre-1910 view. E G Ahrons/G P Keen/M C Shaw Collection



1915 the class had been drastically modified to 'Flower' Class specification with taper boiler and smaller, more standard, 6' 8½" wheels, and with the greater loads due to the great war were considered of greater utility to the company than the 4-2-2s. The 'Singles' of the 'Achilles' 3001 Class continued up until the first world war when they were superseded by larger more powerful 4-4-0s, and the eventually all-encompassing standard ('Star' Class) derived 4-6-0s developed just 15 years after the introduction of the 3001 Class.

The 'Singles' and their almost identical Armstrong 4-4-0 sisters were a bridge - a link between the world of Gooch and Brunel, the late broad gauge 'Singles' - and the 20th century era of 'Castles', 'Kings', 'Counties' and countless 4-6-0s of railways throughout the British Isles



THIS PAGE: Another GWR 2-2-2 type - 'Queen' Class No. 1119 *Princess of Wales* and 1132 *Prince of Wales*, courtesy of Pete Waterman. Tony Wright



that lasted until the very end of regular steam traction.

Churchward's tinkering

As Dean's 'No.2', it may be supposed that G J Churchward had more to do with the original 'Singles' than is commonly attributed. This showed later as the locomotives were outclassed and removed from top link duties by heavier, more powerful designs, such as the pace of locomotive development at Swindon in those golden, sunlit years just prior to the Great War. However, they were relatively young locomotives for the GWR. Although some were scrapped around 1912 (1913 in modified 'bogie' Dean 'Single' form), many were rebuilt with safety valve bonnets rather than domes, Churchward boilers, Belpaire fireboxes and extended smokebox. This

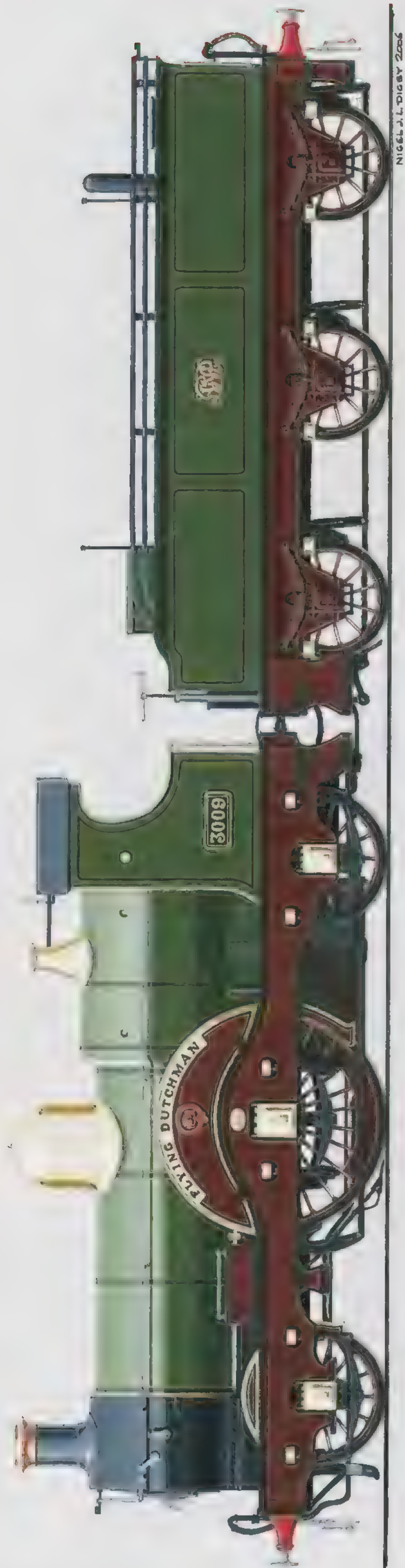
made them extremely racey looking machines.

As already noted, the 'Armstrong' 4-4-0s, initially with identical boilers, mirrored this development.

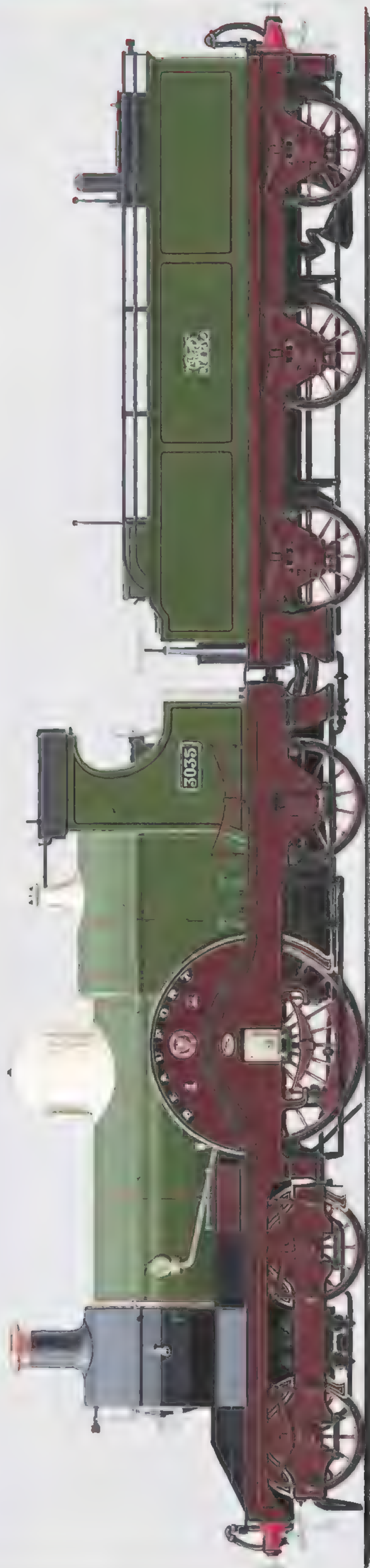
Model conversions

From the 4mm scale point of view, a cheap conversion to later prototypes might be had by substituting Tri-ang/Hornby's original Dean boiler with that from an Airfix/Dapol 'City' 4-4-0 plastic kit, or indeed that off a moribund 'Collett Goods' of Mainline/Palitoy/Bachmann manufacture as there seem to be plenty of 'dead' cheap examples around at swapmeets and train fairs these days. It should be noted, however, that a parallel boiler barrel made of plastic pipe should be inserted.

3001 CLASS 2-2-2
3001-20 built 1892
3021-30 built 1891 (3021-28 broad gauge)



NIGEL J. L. DICKBY 2006



NIGEL J. L. DICKBY 2002

3031 'ACHILLES' CLASS 2-2-2
3001-20/9/30 converted from 2-2-2 1894
3021-28 converted from broad gauge 2-2-2 1894
3031-80 built new 1894/5 and 1897/9



Complications

After 1900 things got very complicated with the 'Singles' as locomotives were rebuilt to Swindon (Diagram 'C') with standard No.2 boiler, high Belpaire firebox, no dome and safety valve mounted on the second boiler ring (see Table 3). Some had a cast chimney, others had a built up form with copper tops.

Some were later modified to Swindon Diagram 'F' with No.2 boiler 'with dome', but in addition had the standard GWR top feed clack-box mounted in front of the dome on top of the boiler (Table 4).

Just to be my mischeivous self, locomotives rebuilt to Swindon's Diagram 'D' were a mixture of Diagrams 'C' and 'F' with new Churchward bogie, plated-over tender, coal side raves, plus extended smokebox (detailed in Table 3). It is therefore essential to seek out dated photographs of the particular locomotive you wish to model both for the 2-2-2s and 4-4-0s.



Costly conversions

It is obvious that the four 4-4-0 heavy rebuilds of the 'Armstrong' Class had proven far too costly for Swindon to justify. Although consideration was given

to rebuilding members of the 'Achilles' Class as 4-4-0s, this was not carried out - there were also engineering difficulties that would have to be overcome. Only a few of the numerically large 'Achilles' 3001 class were rebuilt to any such extent which is why they were all withdrawn by 1916, the last 'Armstrong' 4-4-0 lasting until July 1930.

That said, I doubt if the class would have coped with the minimal maintenance and increased loads put upon the GWR by the 'war to end all wars'. Preservation of one example might well have occurred had it not been war time, so sadly none exist today. But what

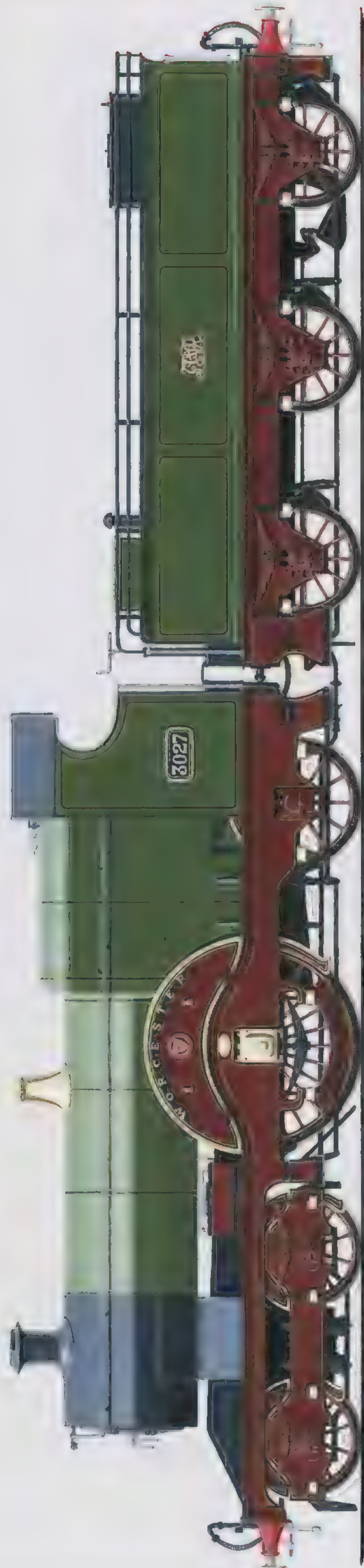
fantastic names and looks they all had in whatever form they took!

THIS PAGE: More exquisite models from the Waterman Collection. Dean 'Single' 3013 *Great Britain* (top) is one of the 2-2-2 rebuilds, while 3050 *Royal Sovereign* was built new as a 4-2-2. Tony Wright, courtesy Pete Waterman



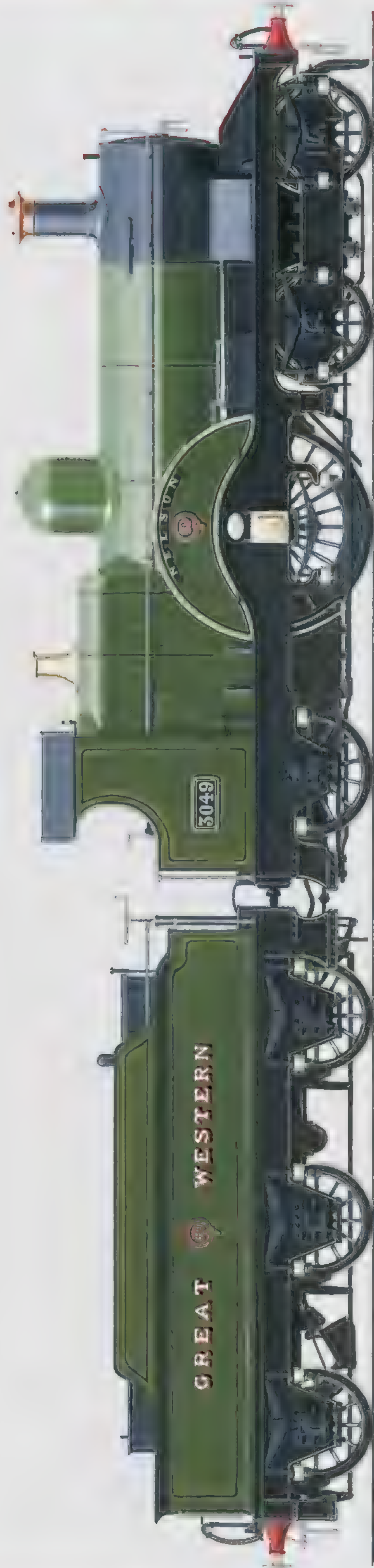
Further reading

- *Model Railway News* July 1965
- *Railway Modeller* May 1976
- *Locomotives I have known* J N Maskelyne (Argus Books, reprinted 1980)
- *A further selection of locomotives I have known* J N Maskelyne (Percival Marshall, 1962)
- *Locomotives Worth Modelling* F C Hambleton (Percival Marshall)
- *GWR Engine names, numbers, Types and Classes* (David & Charles)
- *A Pictorial Record of Great Western Engines* J H Russell (OPC 1975)
- *Encyclopaedia of the Great Western Railway* (PSL 1993)



NIGEL J.L. DIGBY 2006

REBUILT 3031 CLASS 2-2-2 (DIAGRAM 'C')
Rebuilt 1905-6



NIGEL J.L. DIGBY 2006

REBUILT 3031 CLASS 2-2-2 (DIAGRAM 'D' and 'F')
Rebuilt 1910-11

Steam up at Bekonscot

Every summer, the Gauge One Model Railway Association hold a running evening at the world famous model village, Bekonscot. *BRM* watched proceedings this year.



ABOVE: A general view of Bekonscot model village with the replica signal box in the background. Alexandra Bridge on the line to the Evenlode coal mine is in the foreground.

OPPOSITE TOP: A live-steam Midland 'Spinner' at speed leaving Greenhailly station.

OPPOSITE RIGHT: G1MRA Chairman Michael Wrottesley raise steam on his Southern Adams 4-4-0. FAR RIGHT: Where is it? The errant locomotive was retrieved eventually.

The world-famous Bekonscot model village was built in the mid-1920s by Roland Cunningham (founder of the village) and James Shilcock (designer of the railway). The name derived from the towns they lived in - Beaconsfield and Ascot. On opening in 1929 there was no admission charge, instead visitors were encouraged to give a donation to charity. Fund raising for charity has been a major feature of Bekonscot ever since and in 1978 a company was formed (founded by the Church Army) to administer and distribute funds raised. Since Bekonscot opened, more than a million pounds has been distributed to charities.

The gauge 1 railway has grown over the years as the model village has

expanded, and now encompasses the whole of the village area with a total track length of 438 yards. Trains have run a staggering total of around 16,000 miles with the main locomotives having run some 2,000 miles each. John Fuller, who looks after operations at the model village, showed us wheels taken from some of the stock that now had well-worn grooves in the wheel treads!

The tracks are controlled from a replica GWR-style signal box at the rebuilt Maryloo station, with a commanding view over the village. Signals are worked by an 'L'-style Westinghouse lever frame from Purley on the Southern Railway, and moved to Bekonscot 15 years ago.

Once a year, on a summer's evening, G1MRA members descend on the

sleepy model village after it has closed to visitors to run live-steam and radio-controlled battery-powered gauge 1 models. A pretty lively running session ensues, with plenty of sprinting in pursuit of engines and stock that have been given free rein over the line.

As darkness approaches, it's time for owners and stock to take their leave, and once again Bekonscot returns to its normal sleepy self for another 364 days.

Thanks to John Fuller and his team for their hospitality - it was great fun!

■ *Bekonscot Model Village is open from February to October each year. For opening times and prices or more details of Bekonscot call 01494 672919 or visit: www.bekonscot.com*





Peter Berkely's radio-controlled Class 08 diesel shunter was built from a Wagon & Carriage Works kit - allegedly, we were told, for his grandchildren. It is fitted with lights and sound. John Fuller (left) tries to look unconcerned that Bekonscot's gauge one track is being trampled on!



Michael Wrottesley's Midland 'Spinner' is seen again after completing its run round the Bekonscot gauge one railway.



Peter Berkeley's Class 08 Class diesel shunter is seen passing through the rural setting of Greenhailly station.



ABOVE: Peter Babcock's radio-controlled Bachmann J94 crosses the Alexandra Bridge on the line to the Evenlode coal mine. Power is provided by batteries hidden in the van.



A GWR 94xx 0-6-0PT heads its train of coaches through the model village.



Nobody enjoyed themselves more than the Assistant Editor (at the back, by the way).

Newcastle by the Water

An N gauge club layout ten years on described by Mike Tooth.



A general view looking north with a NSE Class 50 approaching the station passing a double-headed wood train and a Midland Main Line HST.

In November 1995, I exhibited my layout of Cheddleton at the Alsager model railway exhibition. During the week I was there I received an invite from Fred Johnson to visit the club room with a view to becoming a full member of their club. The invitation consisted of three visits to the club at no expense and transport from and to home. Having retired from work in May 1995, my wife, June, thought it would be good for me to be with people with the same interests. I took up the offer to see what went on in a club, and as this was a first for me it was going to be a new venture.

On the Friday night I was taken to the club room, an 80' 0" x 20' 0" wooden hut in which were housed three layouts, the large O gauge Hassell Rode (see

December 1999 *BRM*), Rushett Central (OO gauge), and Friwed (N gauge). I was introduced to the members and made most welcome. I decided after my three visits to become a full member.

In February 1996, at the AGM of the Alsager Railway Association, Fred Johnson who, at the time, was the 'Layout Manager', put in a request for the building of a new N gauge layout. This was granted and a sum of money allocated for building it. At the time there were only six or seven members interested in N gauge - Fred Johnson (Layout Manager), John Cox (the club's maintenance man and good at joinery), Alan Downs (a founder member of the Club), Steve Lownes (good with electrics), Richard 'The Bard'

Sherwin (good with words), Martin Shaw and 'JT' (the computer man), and now me. John Cox was given the task of making the new baseboards and in the meantime we ran trains on the old layout to keep us happy. At the 1996 exhibition in November, Friwed was shown for the last time, and after the show, it was scrapped, although a lot of the scenics were salvaged, especially the castle as this was to feature on the new layout.

In December 1996, the new boards arrived at the club made by John. The tops were made of 4' x 4' chipboard with a surround of 4" x 3/4" wood. There were a total of six boards giving a total length of 24' 7 1/2" x 4' 1 1/2", and a leg height of 42" that folded away for transportation. The

first unit was free standing, the next four rode piggy back and the last was also free standing. All the joints had bolts and wing nuts to secure them. A tongue and groove joint at each end of the boards keep them free from any movement whatsoever and in alignment every time they are erected.

The first job was to give the top of the layout a coat of white paint so that we had a blank canvas. As a group we discussed what we would like on the new layout and all the ideas were noted. JT said he would design a layout plan on his computer. The plan was to cover an area of 24' 0" x 4' 0". After a few weeks had gone by, JT duly came back with a plan for the layout that was a brilliant design but the biggest problem was that it needed at least eight or more operators. As we only had seven, it had to be rejected, so back to the drawing board. Having had his plan rejected, JT then lost interest and eventually left the club, taking his plans with him.

Not to be dismayed we had another meeting to decide on a new plan of action. Fred wanted a simple design, based on nowhere in particular, that could be exhibited and run with the minimum of operators (ie: six). The new plan included a four track main line - two Up and two Down for passenger and freight - and a high level branch line. Martin Shaw decided on a refuelling depot to be operated on its own. John Cox wanted a real water feature and a caravan park. Other Club members suggested a town with a big main line through station, a church yard and a 'Thomas the Tank' line.

Track laying - fiddle yard

We are now into January 1997. We had started to lay some of the track, which was Peco code 80 purchased from N Gauge Lines. This may seem to be a strange decision but Fred decided to lay the fiddle yard first to see how much room this would take up and how much was left for the scenics. Each of the four main lines would have three holding lines in the fiddle yard. The layout, being of six sections, was divided in half - three for the Up lines and three for the Down lines. Before any track was laid, the boards were covered with 1/16" cork underlay, stuck down with PVA glue. The track and points were laid completely down the boards with no breaks on the board joints - these were to be cut through when all the trackwork was finished. With the yard ready, except

for point motors (not yet installed), it was tested and ran very well. Now it was time to put up the scenic baseboards. These were again made and erected by John Cox and this now gave us the viewing area of the layout.

Track laying - viewing side

To give the viewing side of the layout more interest, instead of track straight down the boards, we added sweeping curves to enhance the movement of the trains. As they could now be viewed from three sides, this later proved to be a great success. When the station tracks were laid, each passenger road was given access to three platforms each. This would enable us to run extra trains which could be held in the station. The goods lines ran through the centre tracks. In the station we also added tracks for two bay platforms for branch line traffic. Although the branch line would run independently, it also had access to the main line for arrivals and departures. It should be noted at this time no point motors had been fixed but provision had been made for them.

The track for the branch line was laid and this was on an upper level rising out of the station and along the back of the scenic section and dropping down again at the other end into the bay platforms. With all the tracks completed, it was time to cut the rails at the baseboard joints, but before this was done, each track was pinned three sleepers each side of the board joints to stop any movement and to align when the boards were put back together again. A small amount of superglue was also used,

All the tracks were cut across each board joint with a disc cutter and when this was done we dismantled the layout to test the alignment when put back together again. This worked very well. Now it was time to get the power to the circuit and bridge the board joints. This was done with the use of 25-way 'D' plugs.

Electrics

Power to the track was installed *via* transformers and hand-held controllers purchased from Kent Panels. Each track has its own power supply. Before we fixed the many point motors it was decided to solder short lengths of wire - about 18" long. These would feed a connector block so that in case of a point motor failure it would be easier to replace. All the wires from the point motors were fed back to the appropriate panels which had been housed over the fiddle yard. The power for the point motors came from a 24 volt transformer and CDU.

At this time the panels were operated with the use of toggle switches but these have now been changed to 'stud and probe'. With all the main lines powered there was a tendency to want to run trains and forget what had to be done to complete the layout, but with resolve we set our minds to what had to be done.

Scenics

Referring back to our earlier ideas (a water feature, diesel depot, main station, town centre, church yard, 'Thomas the Tank' line), where should we start? It was decided to put the water feature on the



An aerial view of the market with a Class 158 entering the bay platform.

An overall view of the station with a northbound coal train headed by 58 050.



end board as this had the least electric wiring, noting water and electricity do not mix well. We also wanted to incorporate the castle from the old layout.

John started by forming a hill from styrene blocks to give a rough outline. This covered two board sections and care had to be taken at the board joints. On board 1, John formed a river bed and a lake area with an island in the middle. The source of the river is high on the hillside beneath the castle.

On board 2 the hill slopes gently down to the town area. To seal these two boards we used nappy liners dipped in plaster, pasted all over the styrene to form a solid base. The river bed and lake area were also covered with fibre-glass and varnished to give a watertight base. To get the rock face appearance, Fred used kitchen foil slightly crumpled and then pressed onto the wet plaster and left to nearly dry. When the foil was removed it gave a unique surface ready to be finished with paint and scatter when thoroughly dry. Meanwhile, at the other end of the layout a line had been laid to incorporate 'Thomas'. We were now into October 1997 and our first exhibition

was on its way. We had been invited to show the layout at a nearby local show, Brownhills High School, Stoke-on-Trent, on October 25/26.

This would be a good exercise for us as we had to transport the layout to and from the venue, set up and get it running, and we could let people see just what goes on with the building of a

model railway. There was also the matter of giving the layout a name as we had the title of 'An N Gauge Layout with No Name' in the show programme. This was discussed after the show in November 1997. We repeated this exercise with a visit to the Etruria Industrial Museum on the Trent & Mersey Canal, another local show. Both these shows went very well.



Class 60 016 with a rake of southbound roadstone hoppers passes 37 405 going north.

Meanwhile, I had been given the job of making the station platforms, by no means an easy task as they would be about 7' 0" in length which equals approximately a scale quarter of a mile. They also varied in width and had to curve with the tracks. There was a total of four main platforms as well as bay platforms. I started to make a template of each platform, then asked John if he would transfer them to 'Sundeala' board and cut them out. With slight adjustments here and there the platforms were glued into place. I then heard someone ask 'what about the canopies?' So this became my next task.

With the aid of the platform templates, I started to make the canopies, this being done at home which gave me more time than at the club. These were to be totally scratch-built using Slater's 'Plastikard,' I cut out each top then added a valance. The support posts were made from plastic girder cut to length and glued into position down the centre of the tops. Where the canopies crossed a board joint, a small section was made so that it could be taken off when in transit, but the rest were to be glued to the platform. With the tops painted black, the valance cream, the posts red, they were ready to be installed.



A southbound freight is hauled by a DRS Class 33 double headed with a DRS Class 47 on an 'Enterprise' service. The scrapyard is on the right.

Real water

The main feature of the layout was to be real water which was John's idea from the start. Not water in a container, but free flowing in the form of a river and a lake. To achieve the end result a small water pump was required and a

windscreen washer pump was obtained from a scrapped Volvo car. The pump was powered by 12 volt DC from the car battery, the same voltage as the layout.

A small plastic container was used for the water supply, the water pump was fixed onto the water container and a

A Post Office train stands at Platform 4 headed by 47 704 while 'Thunderbird' 57 301 waits in Platform 5. A Midland Mainline Class 170 arrives in the bay platform.



small length of rubber tube attached to the outlet. The tube was then fixed to the source of the river which is under the castle walls. The power for the pump is a 12 volt controller, this allows for the water supply to be regulated. A small amount of water was used in the container ready for the test. With the power switched on, the pump sent the water up the tube and out of the spring into the river which winds its way down to the lake. When the lake is full the overflow drains back through a culvert into the water container which is suspended beneath the layout.

On the first test it was found that water was soaking up into the scenics through capillary action and discolouring the grass area. This meant that more varnish was needed to rectify the problem. When this was done everything worked as it should and the real water proved to be a show stopper. Now that we knew the water feature worked well, it was time to plan the proposed caravan and camping site beside the lake.

Again I was asked if I could make the caravans and tents. The caravans had to be the static type, so I began by drawing what I thought would do the job. This was done to 2mm scale and I produced one as an example. Everyone approved and I was told to make at least 12. This would be much easier now as I



A Class 158 heads over the bridge across the main line as 37 405 heads a rake of 'Dogfish' hoppers past the caravan park.

had the scale drawing ready at hand to use in the making of the rest. I always try to keep the drawings for future use as with everything I make. With the caravans in place it began to look like a holiday park and with some touring

caravans and tents, and more people on the site, it was looking good.

Meanwhile, at the other end of the layout the town area was beginning to develop. The buildings that we had acquired were from swapmeets and

The water feature is behind the caravan park and camp site, with the fuel depot in the background. A Class 158 approaches the campsite station. The branch is still controlled by semaphores.



An ARC Class 59 heads a train of empties as a Scot Rail Class 158 proceeds on the branch line.



railway exhibitions and mainly by Pola and Faller. These had a continental look but with some modifications they could be made to look right and not out of place. Also in the town area was the main station building, which also was bought from a swapmeet. With money being on a budget, we had to spend it wisely and not to squander it.

Another earlier idea was to have a tramway running through the town, but when we reached this stage it was found to be impracticable and so it was squashed. The line that had been laid for 'Thomas' was found to be in the way and so this was also disbanded (sorry 'Thomas' fans). With the town taking shape, it was time to add those extra

touches to give it a lived-in appearance. An outdoor market area was suggested, and once again I was asked to come up with something. I made about a dozen market stalls from plastic card and with a bit of imagination, different produce was placed on the counters to give a bit of realism. The covers over the stalls were given a colourful look by adding coloured stripes to the tops. Fred then arranged the market place and added the bits and bobs to give the scene the feel of a busy market day.

Things were slowly taking shape. With the diesel refuelling depot (built by Martin) installed, another corner had been filled. It was about this time that Martin left the club (for a new hobby - girls), and we heard that he eventually got married.

A lot of work had been done over the previous 12 months and we were ready for our first major exhibition - our own club show at the Alsager Civic Centre in November 1998. The layout received a very good reception from the general public, and people were amazed to think that we had actually used real water on the layout.

Two new members, Norman Jones and his son Ben, joined the club at the

An EPS Class 37 rescuing a failed Eurostar.





A 'Push/Pull' 4-TC set heads south with an NSE Class 33 pushing.

nominated as 'Transport Manager' and driver. The weekend went without a hitch and we had a lot of good comments about the layout. This in turn made everyone feel good and ready for our next outing in 2001 to Pendle Forest but due to illness I was unable to attend. My stock boxes went, however, so that there would be enough rolling stock to help fill the layout.

It was at this show that we won our first trophy - in fact there were two trophies, both for 'Best Layout' as voted by the judges and also by public vote. News of the win, and the trophies were left at my house on Sunday night after the show.

Since then we have won a string of trophies including 'Best N Gauge Layout' and 'Best Scenic Layout' (Southport, 2002); 'Best Exhibition Layout' (Syston, 2003); 'Best N gauge Layout' (Southport,

Two types of motor vehicle transportation - A Class 66 with vans and covered 'Cartic' sets going southbound.

beginning of 1999, a welcome addition to the ranks. During this year many more details were added, ie: road markings, telegraph poles, street lights and much more. People and road vehicles were fixed down giving the layout more life. The caravan site now had guests who were enjoying their holidays by the lake, which now also had some canoeists - these were just a few things done to enhance the scene.

Our first major exhibition outside our area was to the North Mersey Model Rail Show at Aintree, Liverpool, in February 2000. This required a hire van to take the layout to the venue. John was



2004); 'Best Layout' and 'Best Layout by Public Vote' (Crewe, 2004); 'Best Layout by Public Vote' (Bolton and Derby, 2005).

On our visit to Loughborough in September, 2006, we had a photo shoot of the layout by Tony Wright for this article. Once again we received a trophy at this venue being voted by the public as the 'Most Entertaining Layout'. Thank you very much to all who voted, our aim is 'to please and entertain'.

The latest addition to the layout is a series of coloured light signals in the station area, controlled through relays by switching of the appropriate points in this part of the layout. These were installed by Steve Lownes. Also on the layout, in the cemetery is another

A busy scene at the station looking south. The maintenance crew work on the track as 73101 Pullman departs.

A general view of the main station building.



all the traders who support us including our local car and van hire company, Afford Rent A Car. Finally, if anyone has the chance to see our layout at any of the venues listed below, I will gladly answer any questions about it. I am the one usually operating the diesel shed.

■ The Alasager Railway Association's O gauge layout Hassel Harbour Bridge will be featured in BRM during 2007. Also during 2007 you can see Newcastle by the Water at Folkestone in October; Spalding in November; and at the Warley National show at the NEC in December. To find out more about the Alasager Railway Association, visit: www.alsagerailwayassociation.co.uk and www.hasselharbourbridge.com

A Class 57 'Thunderbird' passes the signal box.

feature. it's our own 'anorak', a true train spotter to the end. He was donated by Jonathon, a new member.

The ranks of the N gauge members has risen and a lot of juniors are taking a keen interest and are happy to run their trains on Friday nights at the club.

And so, ten years of being a club member. I must admit I have enjoyed every minute. I have learned a lot about model railways and made some very good friends. I have also risen in 'rank' by becoming the 'Layout Manager', but this is only a figurehead, as I know a lot less than most of the other members, but somebody has to 'hold the baton'.

In conclusion, on behalf of the members, I would like to give thanks to



A general view of the High Street looking from the Church end of town with a Class 170 approaching the main station.



16 Ton Minerals

Tony Geary batch-builds the Parkside Dundas 7mm scale kit.
Photography by the author.



A rake of completed and weathered 16 Ton mineral wagons, including a Diagram 1/101 slope-sided version, all built from Parkside Dundas kits.

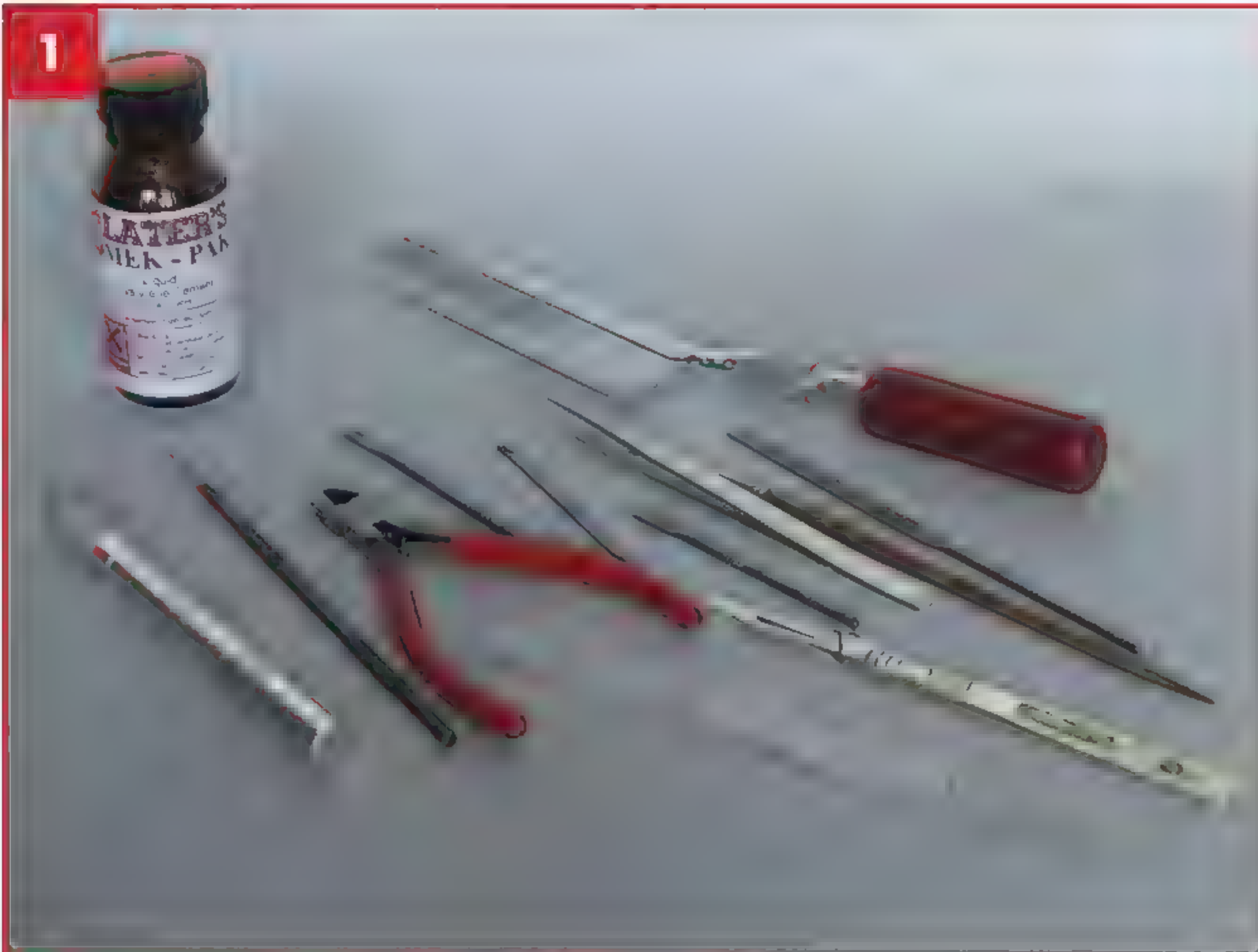
Any photo of an active station goods yard in the 1950s and '60s would include at least one steel 16 Ton mineral wagon. They seemed to be everywhere, transporting coal for the domestic hearths and ever-hungry furnaces of industry. So, surely every layout of this period should have some! In 4mm scale I must have over a hundred, but for my newly acquired interest in 7mm scale I have six – a modest beginning, and I don't expect to get into to three figures with these! I decided to make some constructional notes regarding the Parkside Diagram 1/108. This kit represents a version of the wagon of which there were literally thousands. These were mostly built in the 1950s to eliminate the quarter of

a million wooden-bodied and grease axlebox-fitted wagons that were still around at the time. A number were re-bodied during the 1960s to extend their life. The ravages of carting coal around – with its corrosive constituents – must have certainly taken its toll. Some of these wagons lasted until recent times, but they were certainly showing their age and it was rather sad to see the distorted, battered and rusting survivors.

There are a number of variations that can be accommodated by the kit, and I'm sure the experienced kit-basher would be able to come up with all sorts of them. I generally followed the instructions of these simple kits, with a little diversion here and there. In this particular exercise I batch-built six

wagons, which included some for a friend.

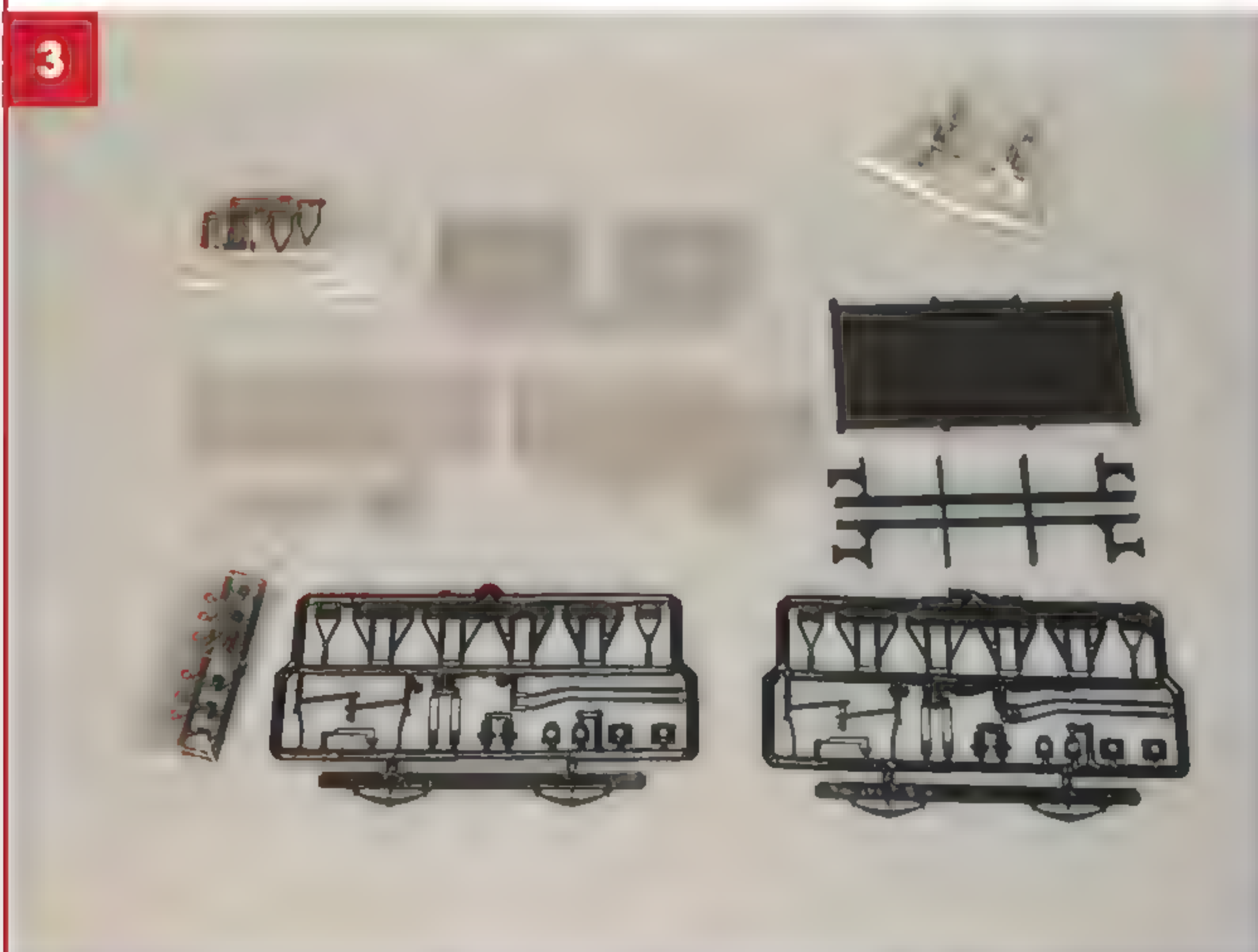
On opening the box, there were a couple of poly bags with the bits in, instructions, a good exploded drawing and some transfers with a good selection of complete numbers. The wheels and bearings are also included. The first task is to prepare the sides, end and floor. Parts are separated from the sprue using a razor saw. It's tempting to twist the bits off – as one did in boyhood Airfix kit days – so as to build the thing as fast as humanly possible, with the maximum amount of polystyrene cement. I remember building a Spitfire or some such fighter in those days – the glue ran out, and I found a tube that looked very similar at home and



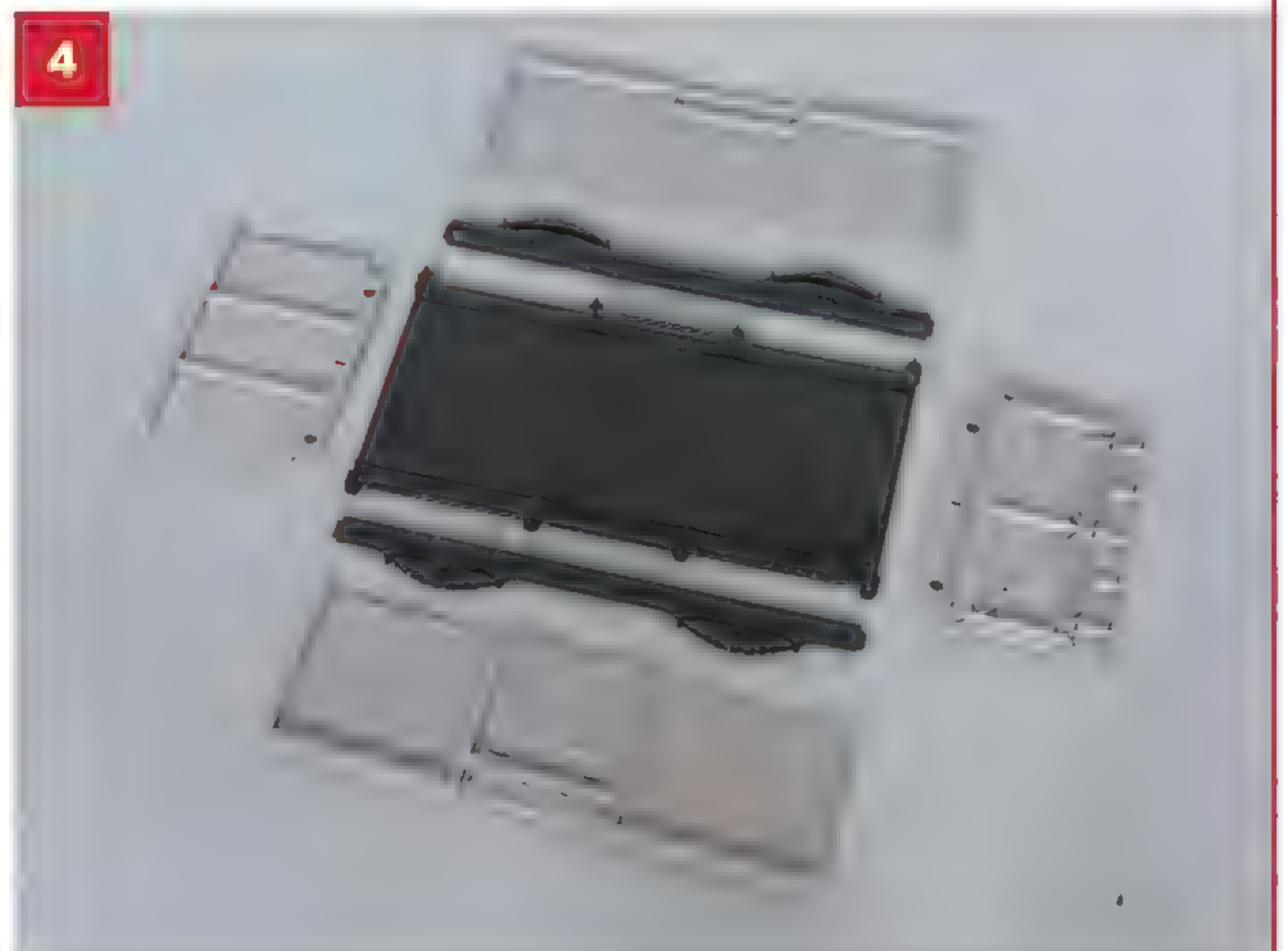
1 Getting ready to start, Craft knives, scrapers, files, razor saw and the all important 'Mek-Pak'.



2 My valuable scrapers, ground down from broken miniature files.



3 This is what comes out of the box, and as can be seen, two solebar moulding sets are supplied – so there are plenty of spare parts.



4 The main body components laid out.



5 Separating the ends from the sprue using the trusty razor saw.



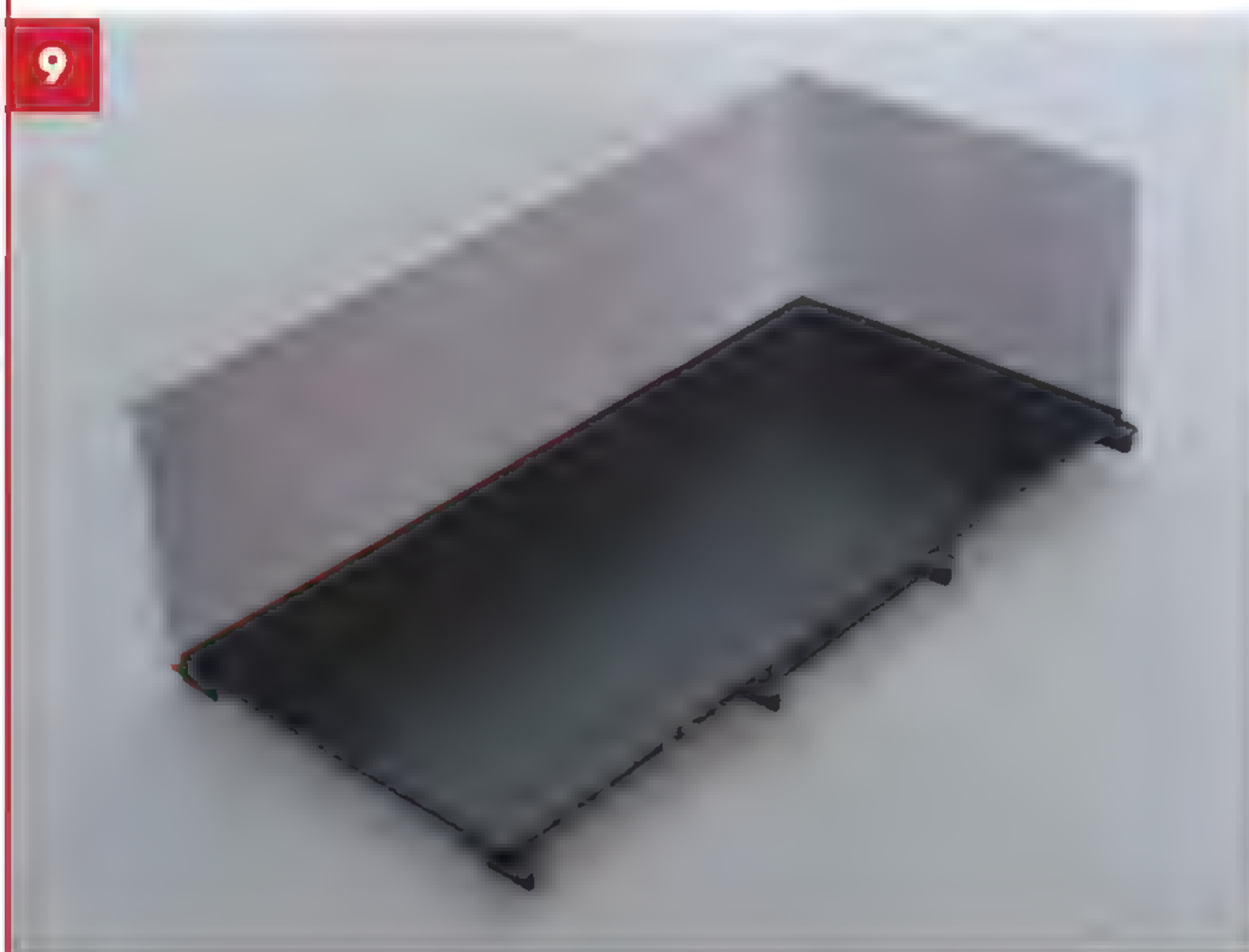
6 Cleaning up the top edge of the sides by drawing a fine file sideways along them.



7 Drawing a craft knife blade along the top edge of the side to finish off.



8 Solebars being cleaned up.



9 Fixed end and side initially cemented to floor – better press on before it sets hard.



10 The other side is on - we are getting there!

used that. Unfortunately it turned out to be balsa wood glue and had no cementing effect on the plastic parts whatsoever and resulted in a fine mess! These days using liquid cement and a small paintbrush to apply it seem quite sophisticated.

Anyway, the parts should always be cut off neatly from the sprue to avoid damage to them. Flash was cleaned off using a craft knife and files, although there wasn't too much to do actually. The top edge of the sides and ends needed a little filing to get them completely smooth. The main thing to avoid is leaving file marks, they always look what they are – file marks. I finished the surface by drawing a fine file laterally along the edge and then drawing the flat edge of a craft knife along it just to finally smooth off. Once the sides were prepared I tackled the floor, and this is

where the dry run assembly of parts is most valuable.

The kit is designed so that the solebars can be sprung into place once the floor and sides have been assembled. I found that the slots on the underside of the floor for the top edge of the solebar made for a very tight fit. To resolve this I used a scraper ground from a broken miniature file to open them out a shade. I have two of these tools made from broken flat files. One is ground to make a miniature chisel with a cutting edge on the long side – the other is ground on the short side. They are invaluable tools in my armoury; I don't know how I managed without them before. Arnie at the club spotted my broken files and offered to grind them up for me – I would never have thought of it myself and they have been in constant use since!

The first half hour or so of this project

was actually spent preparing the parts. Slater's 'Mek-Pak' was used for most of the assembly, with Butanone being used for the ABS parts, which need a stronger solvent.

Deviating from the instructions slightly, I assembled the wagon body. The sides and plain end were attached to the floor, but before the door end was put on, I fitted the solebars into their slots, but didn't cement them in place. I found it easier to check the fit of the lug on the end of the solebar where it fits behind the buffer beam. A little filing was necessary to achieve a clean fit and then the door end was fitted. This was all done in one session whilst the solvent joints were still relatively soft. This means that adjustments can be made to the body to make sure everything is square and that the corner joins are true and that there are no gaps. I found that the



11 Basic body and floor assembled, solebars in place ready for the end to go on.



12 Now the end is on.



13 The end sits slightly low on this one, so I've filed a step in the side for the corner cap to sit flat.



14 On this wagon I made pads of thin plastic card for the cap to sit on.

top of the end door was slightly lower than the sides, so to get the corner caps to sit horizontally a little pad of 10 thou 'Plastikard' was added for it to sit on. On another wagon, I filed a step down on the top edge of the side, which also allowed the corner cap to sit in the horizontal plane. I think that next time a little trimming of the ledge on the inside of the buffer beam that goes under the floor would improve the fit. The corner caps were tidied up once the solvent had fully set.

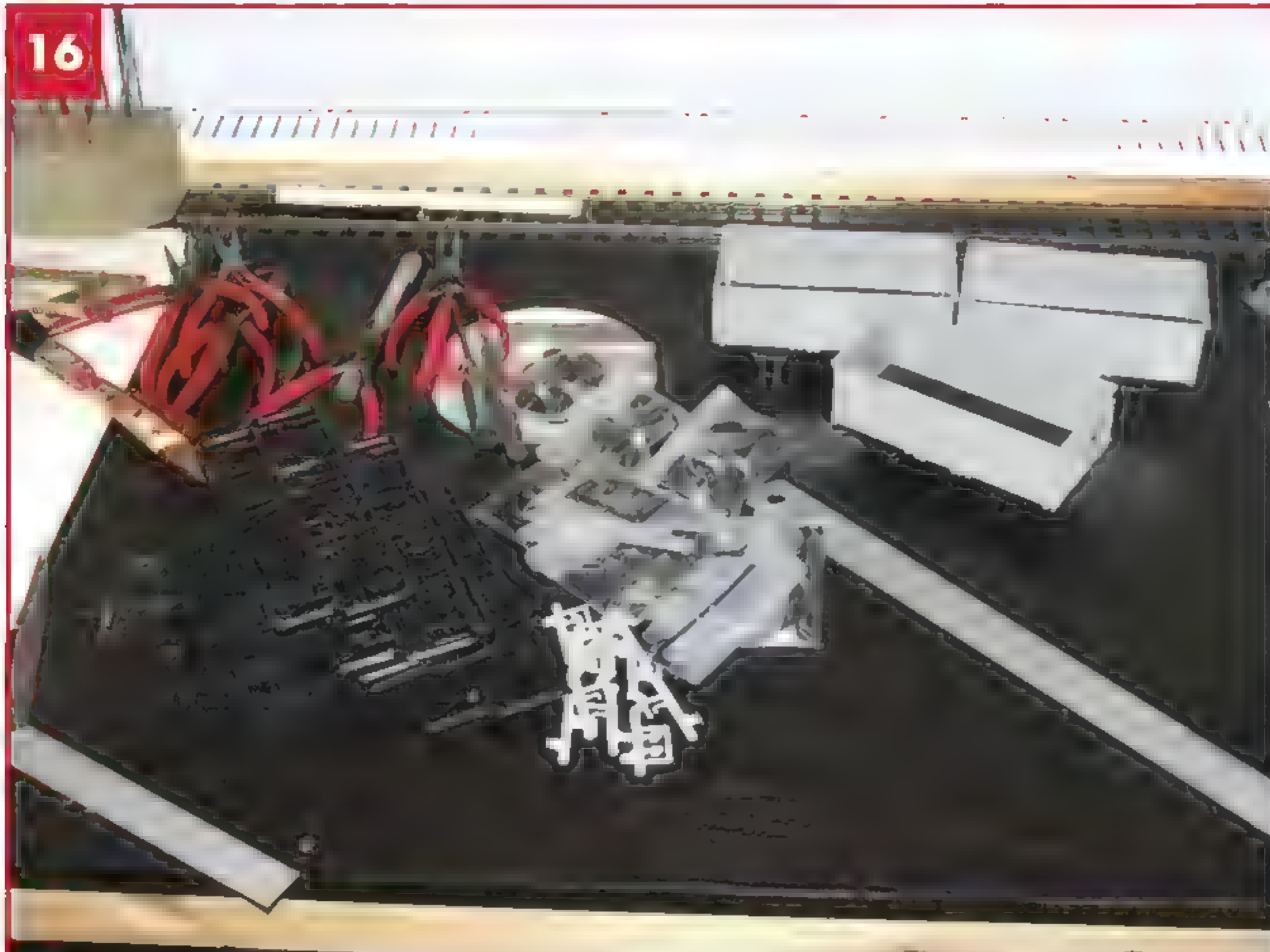
The 'W'-irons were then cleaned up. Again the blade of a craft knife was drawn along in a scraping rather than cutting action to remove the slight moulding ridge on the rear edge of the mouldings. The inner part of the axlebox (part 22) also needed a little filing to ensure that they could move freely in the slot in the 'W'-irons. Working axleboxes –

a real treat! After putting on the 'W'-irons, the 'V'-hangers for the brake gear were also fitted. They differ on single-sided brakes, one is a simple pivot point for the brake lever (non-brake side) the other is the cam mechanism for the brake side. The end door is always on the left when viewing the brake side of the wagon, unless you want to do a 1960s re-bodied version, where they weren't fussy which way round the body was!

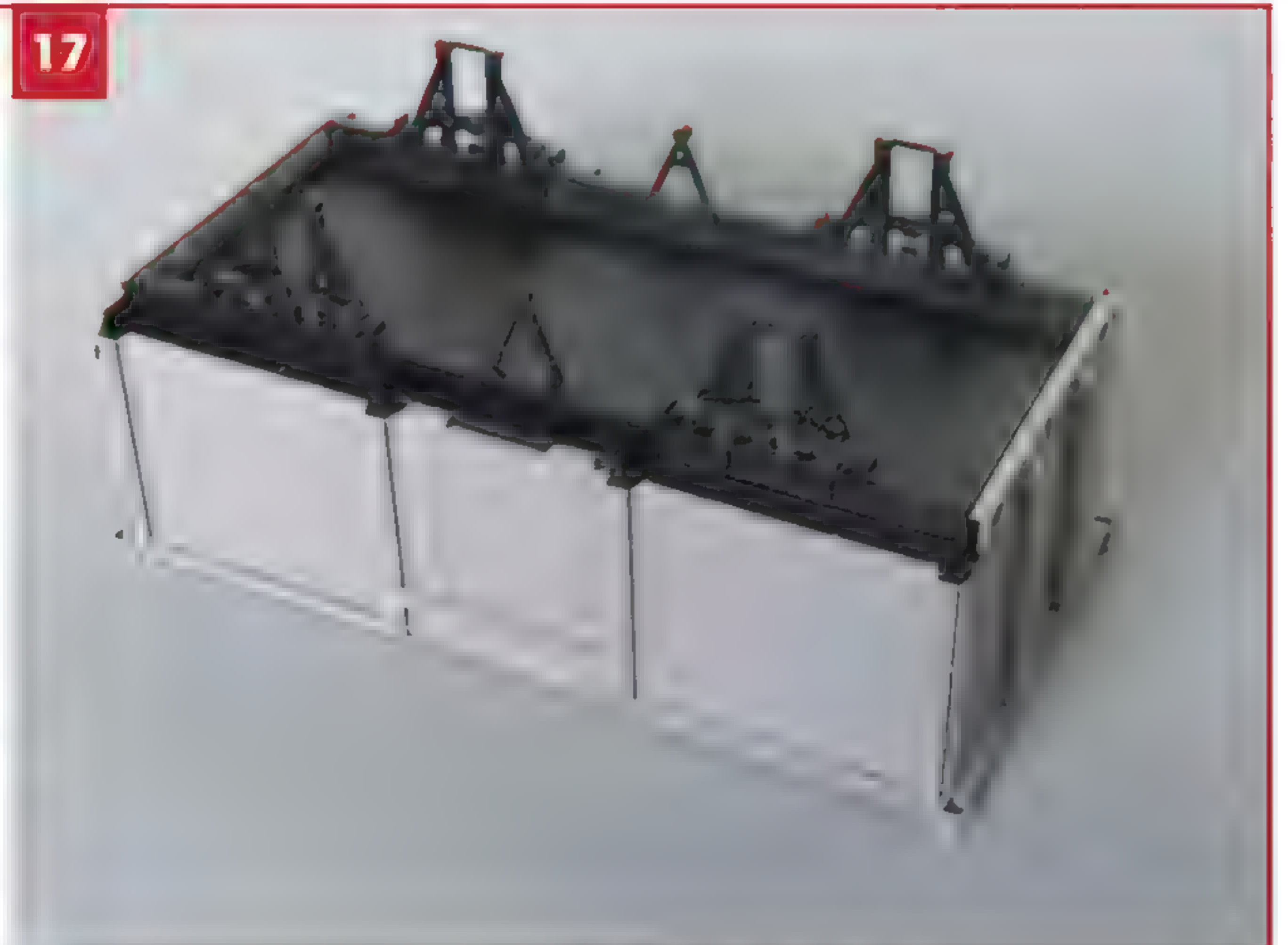
The underfloor chassis member moulding was then cleaned up. I found that on a dry run test fit that the outside moulding guide for the 'W'-irons interfered with the fit of the outriggers. These were removed with my miniature chisel as they had already performed their function of locating the 'W'-irons. The chassis member was trimmed to fit between the solebars and the aim was to ensure that the 'W'-irons were

nicely vertical. There is some fore and aft movement possible with the solebars. So their position must be checked to ensure that they are in line with each other and that the axles will be at 90° to the direction of travel and that they are centrally positioned under the wagon – this makes fitting the brake gear a lot easier later on, because if it is not central, you'll find yourself having to heavily trim one of the brake shoes to clear the wheel, whilst the other has a gap that (as my old engineering lecturer would say) 'you can drive a horse and cart through!' When this positioning was corrected, I cemented the whole shooting match in one go – solebars and chassis member, keeping a constant check that everything is in the correct position.

This was all left to set and the wheel sets were then added. I found that if the



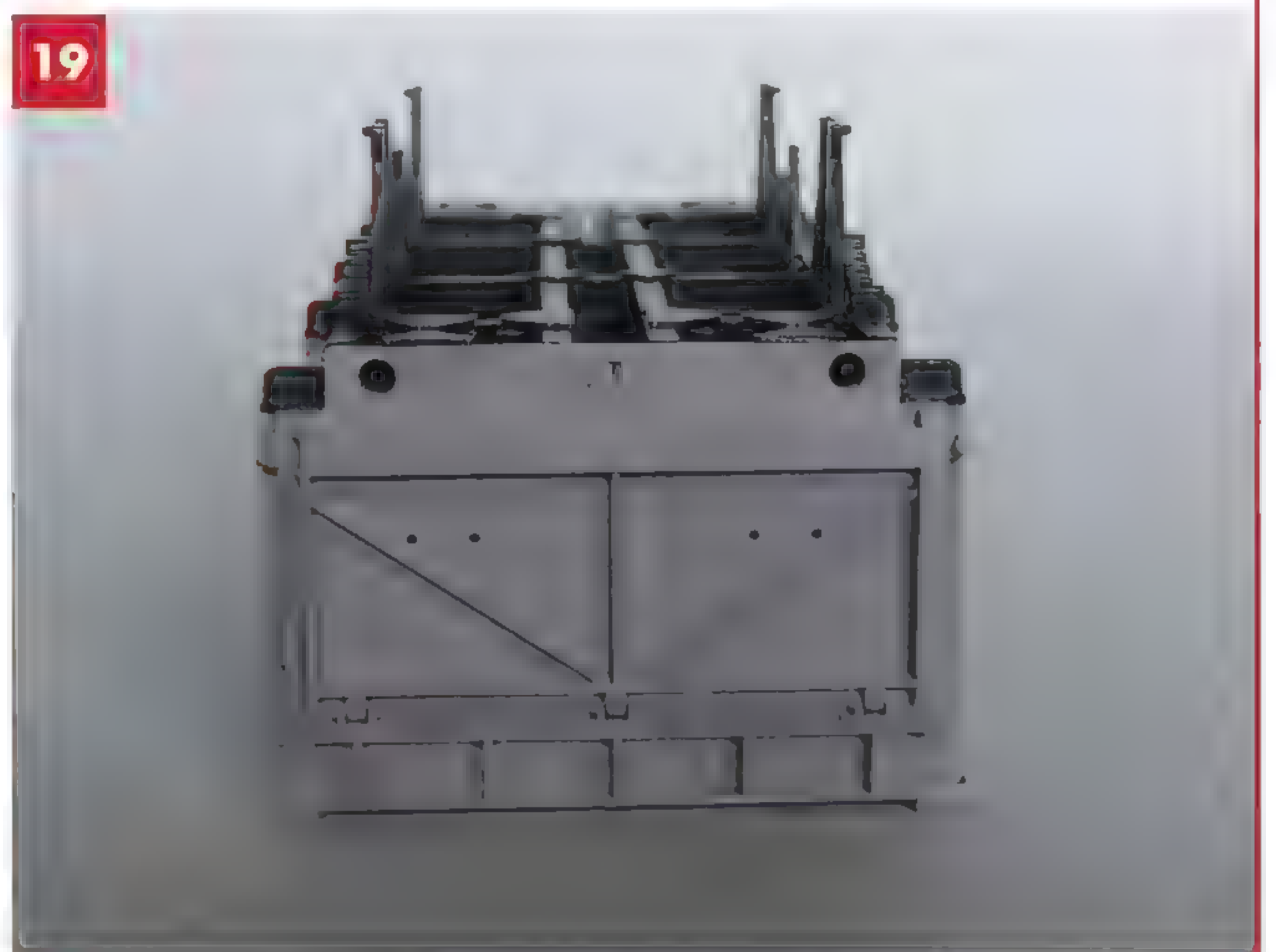
16 Work in progress, several bodies assembled, tools and part scattered around in usual haphazard fashion!



17 Solebars in place but not fixed, waiting for the chassis member.



18 Here I'm trying to line up the solebars longitudinally so that they are central.



19 The chassis member has been added and those 'W'-irons need to be vertical!

bearings were fitted to the axleboxes as suggested it gave quite a lot of sideplay. So I made cheap washers from loops of tinned copper wire (by winding it around a file handle and cutting after every full turn). Placed underneath the top hat flange this prevented the bearing from pressing fully in and effectively reduced the sideplay in the axle.

Brake gear came next and the mouldings were cleaned up and the fit was easy to check with the wheels in place. If everything is fitted centrally – ie: axleboxes, chassis members, etc, relative to floor – then, as I have said, there should be little trimming of the brake shoes to do. I replaced the plastic rod that came with the kit for the cross shaft with brass wire of 1.2mm diameter. The plastic shaft is just too vulnerable for any amount of handling. Levers, 'V'-hanger and brake actuator were all

drilled before fitting using a suitable size drill in a pin chuck. The brake loops were very fragile and needed to be handled with care. It was possible to glue them back together, though, after they broke!

The majority of Diagram 108 wagons had single-sided brakes and the instructions show how these are to be fitted. Older versions of these wagons had bottom doors, which meant that there was a set of independent brake gear on each side, as a cross shaft would get in the way of the opening bottom doors. This arrangement continued for a while after bottom doors were discontinued, until I guess someone realised that some money could be saved! Double-sided brakes can be made up by using the ABS plastic outside 'V'-hanger that is included in the kit and the plain brake handle (two are included in the kit). There were enough parts in the kit to

represent a wagon of this type, it was just necessary to check the orientation of the brake lever and the brake moulding to ensure that pushing the lever down would theoretically apply the brakes, not move them further away from the wheels!

Next time I think I'll have a go at a bottom door wagon. The outline of the doors could easily be scribed on to the wagon floor, or not, if it has a load! I wonder what it was like to release that door with several tons of coal on top of it – I'll bet it came down with a bang and a lot of dust! The other things that would be required are the operating lever, which is part of the ABS moulding, and application of the two white sloping line transfers onto the side door to indicate that the wagon has bottom doors.

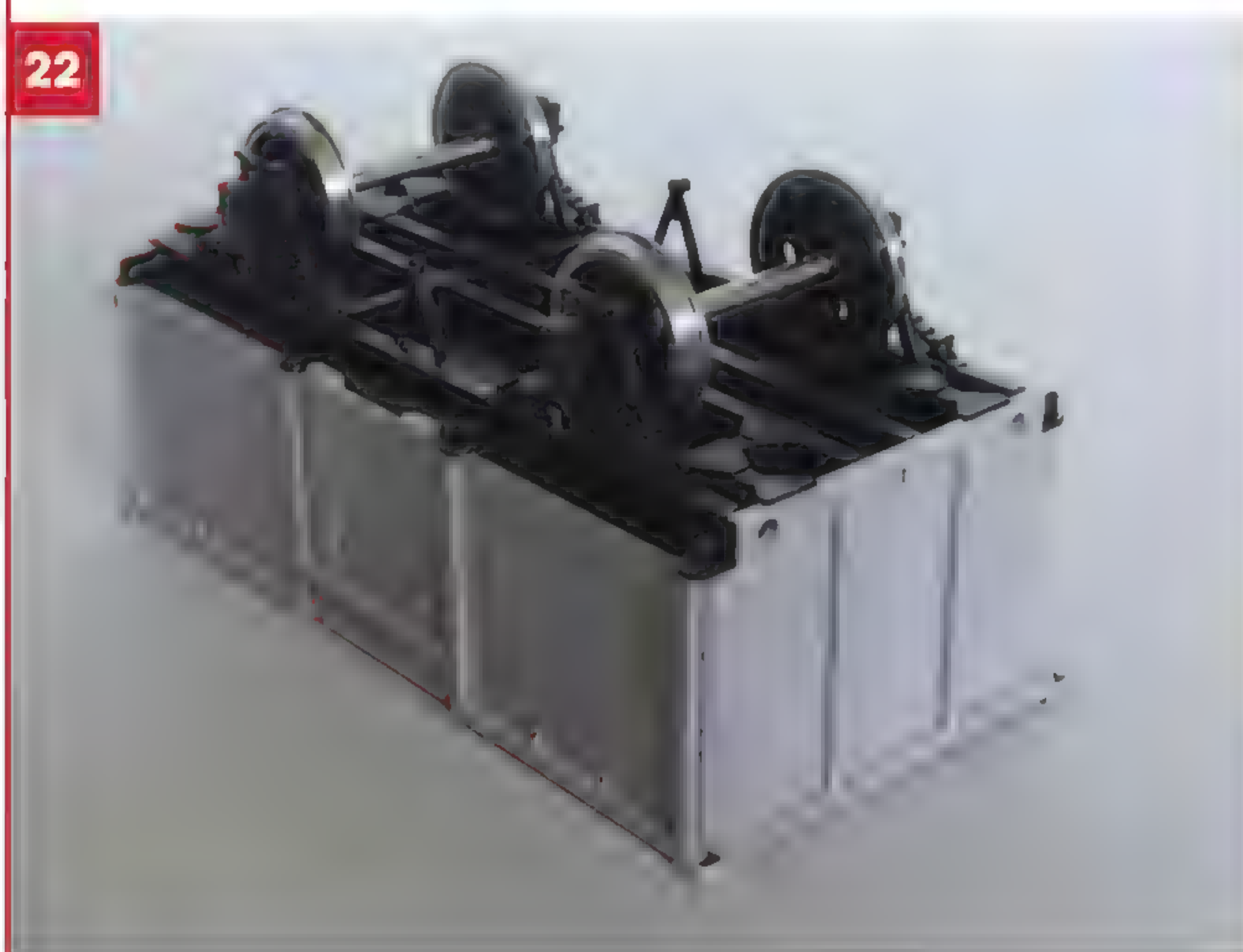
I was now on the home straight. I found the ABS door spring cleaned up



20 Twisting finned copper wire around the scraper handle. This will be cut to make 'O'-rings that will act as washers underneath the top hat bearings.



21 Axleboxes being cleaned up, the rear part must move freely, vertically in the 'W'-irons.



22 The wheel sets have been added.



23 Brake gear with safety straps fed over the moulding before fitting into place.

easiest by scraping with a craft knife rather than by filing. These, and the ABS buffer housings, were secured into place with Butatone. Couplings and buffers were then fitted. Some folks might prefer to fit them later, but in my view they will receive layers of grime like the rest of the wagon during the painting process.

Finally each wagon was inspected and cleaned up to remove rough edges or file marks. The plastic detritus generated seems to stick to everything – but it eventually disappears.

Painting

The bodies were sprayed first with Precision BR wagon grey. These were left to dry and in the meantime a mask was made up from plastic card to shield the wagon bodies. Then the underframes were sprayed with my traditional 50/50 mix of Humbrol matt black and leather

(No.62). There was a little overspray – but that was easily disguised by the weathering. That's the good thing about these tatty wagons – a few liberties could be taken, it was more a case of making more mess than tidying up. The interiors of the wagons were also sprayed with a darker mix of the matt black and leather to portray the coal dust and rust residue inside. Numbering was then applied.

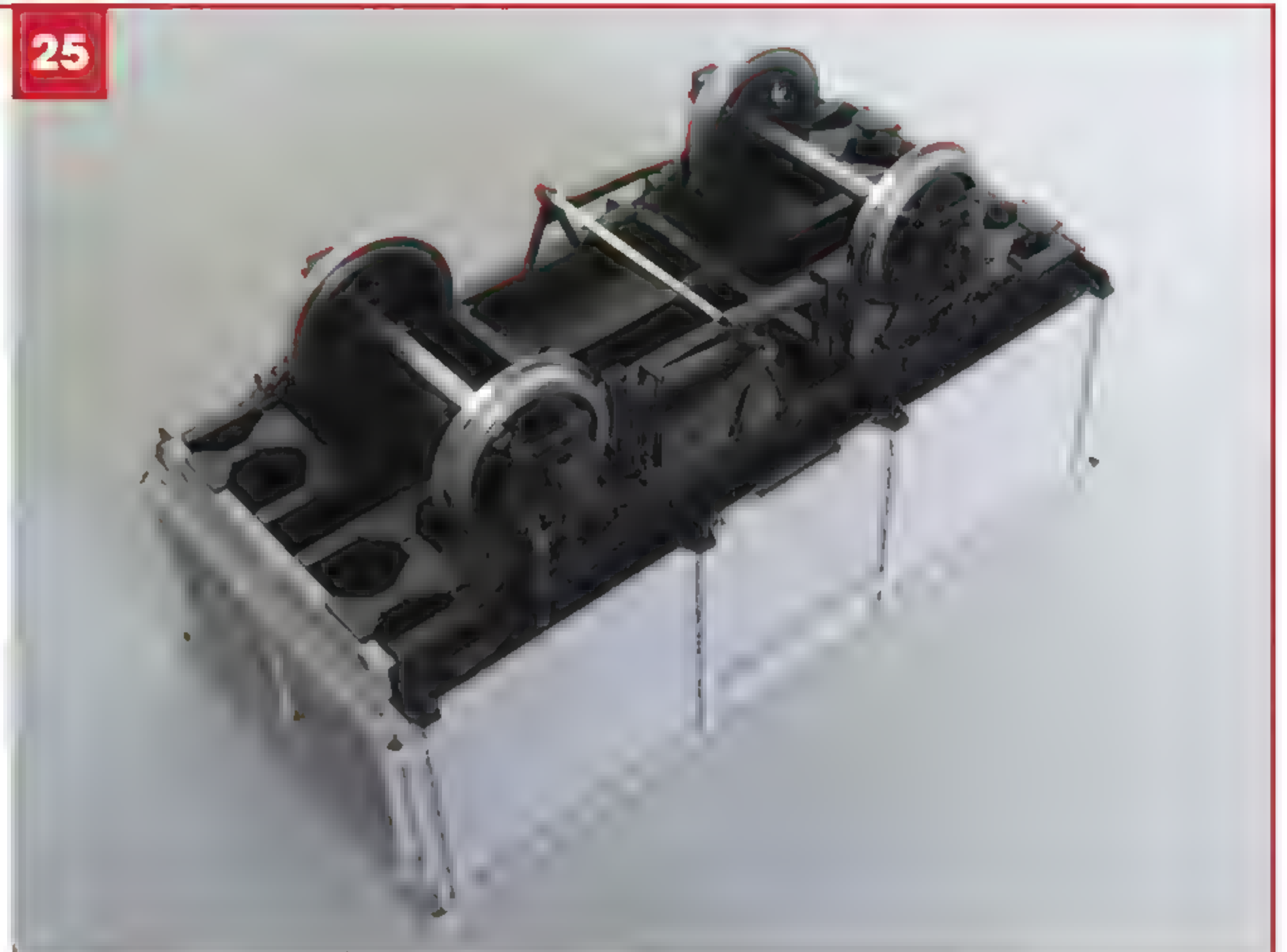
Parkside thoughtfully provide a small sheet of black for the background, which makes a nice surface for the numbers. However, in retrospect it looks almost too neat, so I'll probably use satin black next time. I used the transfers provided for the end door white stripe, they went on well, but I might be tempted in the future to paint them on. In some photos of the prototype they appear to be pretty crudely applied. A matt acrylic varnish was applied over the transfers to protect

them from the ravishes of weathering. Rust mixes from matt black and leather were made up and prototype photos were used as a guide. I spent ages looking through colour photo books for rusting 16 tonners and that's probably the best way to do it, by finding some prototypes to copy.

As an aside, I did find a photo of a rake of wagons being used for chalk traffic – and the interiors were white rather than black. Generally the rust was usually pretty dark in colour. Rusty patches were made, especially around doors and stanchions and then dry-brushed vertically to simulate the effect of rain and gravity. No varnish was used, as it was just not necessary. If anything, the effect desired is one of differing texture to the surfaces. There are many variations of weathering in a rake of wagons and that led to some interesting



24 Cleaning out the bores in the buffer housings after the collars have been fitted with a miniature rat-tail file. Essential so that the buffers can move in and out freely.



25 The ends of the cross shaft have now been cut and tidied up.



26 The completed wagon ready for spraying



27 These boxes in the garage made an ideal spraying table. Wagon grey is being applied. That grey overspray on the underframes will soon be covered over.

experimentation with technique. As on previous occasions, referral was made to Martyn Welch's book on weathering. It is a most useful guide.

Clean, new looking wagons were very much a rarity, although at the rate they were being turned out it would not have been a surprise to see one or two. As usual, the painting took place over a good number of days, in actual fact about two weeks. It just one of those things, in that the weather has to be right – I have the luxury of being able to spray in the garage – but the mood has to be right, too. Leaving things to dry each time adds a day and then other domestic matters get in the way to delay things! Finally, a very light dusting of 50/50 matt black and leather was applied to each wagon to tone down the whole effect. Job done!

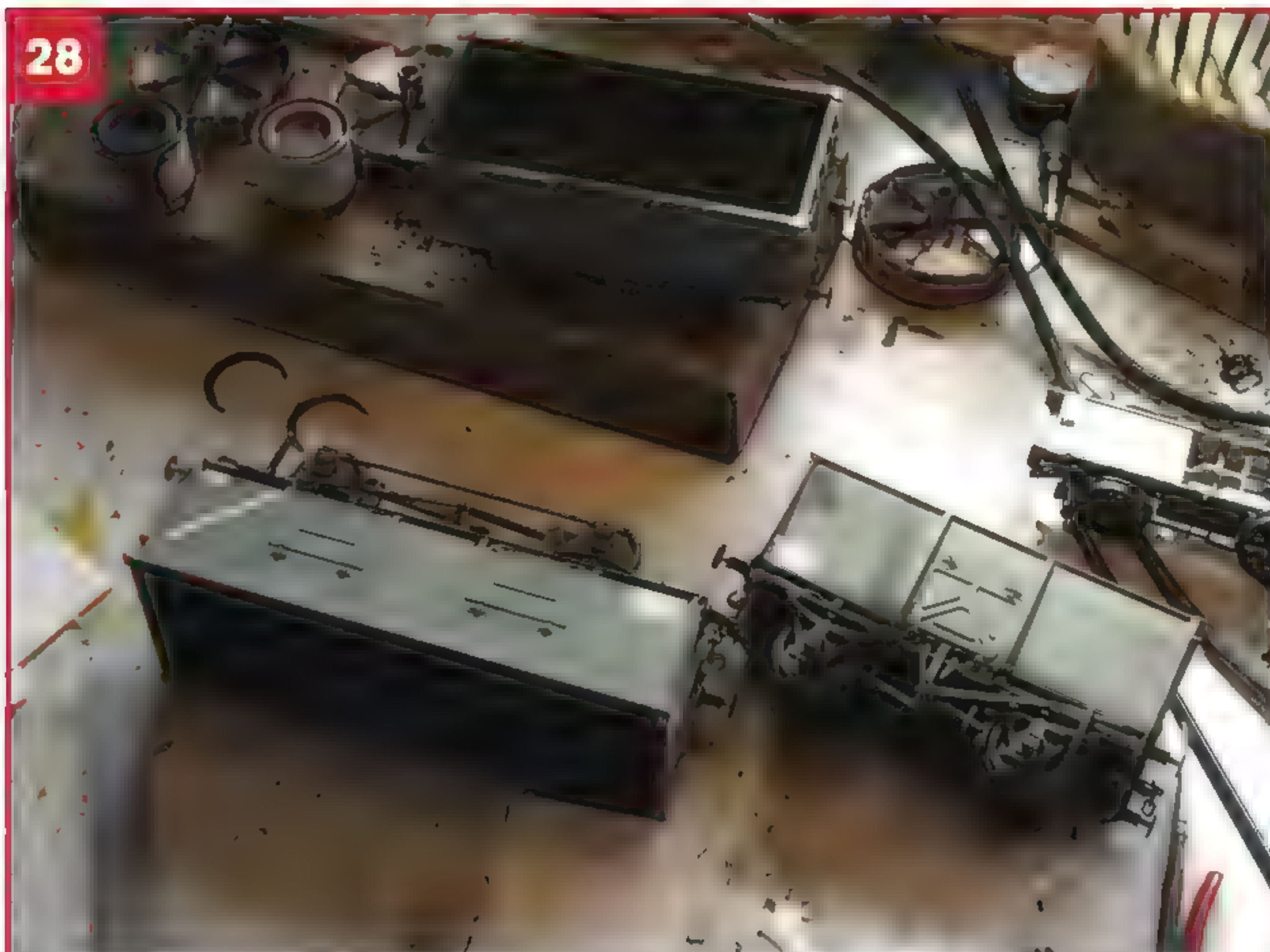
Concluding notes

The good thing about these plastic wagon kits is that only a few tools are required and that they can be built almost anywhere! I use a piece of hardwood (an offcut from a replacement window sill) as a work surface. I reckon it took about two and a half hours to build the Diagram 108 straight from the kit. The first one took a little longer, probably about three hours or so as I sussed things out. So that's four wagons a day, 20 wagons a week – not long until I get a decent length train!

I find it faster to batch-build and probably the optimum is about four wagons at a time, otherwise it starts to get tedious. Overall, the kits fit together well with relatively little cleaning up to do. Some of the smaller parts such as the brake safety loops are fragile and a

little care must be taken whilst handling them. In any case there is a spare pair if the wagon has single sided brakes. They are enjoyable and relatively easy to build.

As I've said before, the interesting part of wagon building is in the variation that can be achieved, and it would be good to see some of the pre-Nationalisation riveted types as kits. I've seen the Peco 7mm 16 tonner which has the pressed steel type end door – so there is a possibility of variation there. I expect that it goes together as well as the Iron Ore Tippler from the same firm (I also made one at the same time as the Parkside wagons). With the Diagram 108 a number of variations can be attempted – bottom doors and double-sided brakes for starters. For the wagon pickers, I'm sure there are lots of other minor variations.



28 Parkside supply a nice black transfer for the lettering background.



29 Initial weathering applied, a light blow over of grime is still to be put on.



30 The wagon in finished weathered condition. It would never do for it to be clean would it?



31 A pair of finished wagons – only another 20 to go!



Further Reading

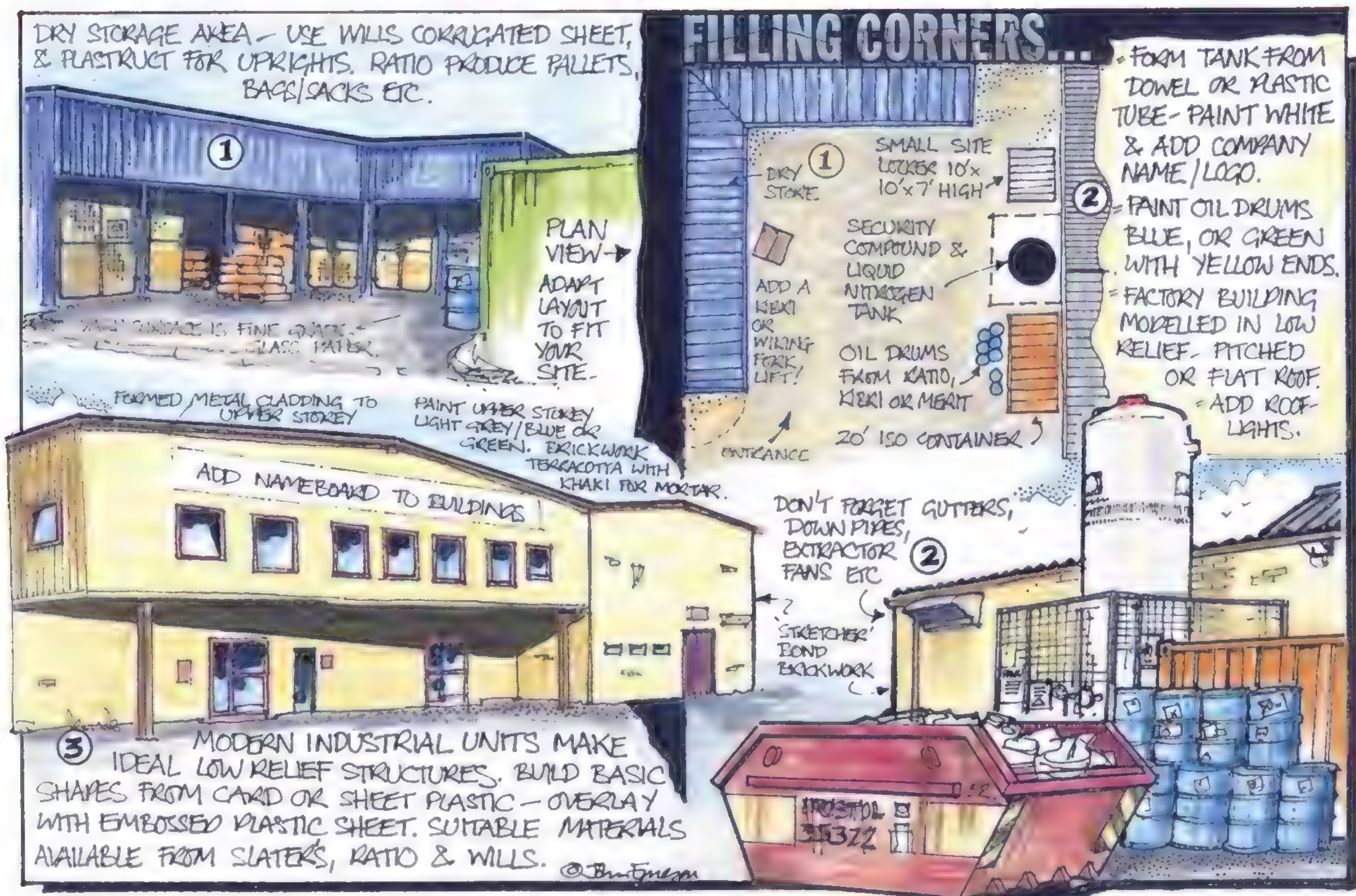
Illustrated History of BR Wagons Vol. 1
Bartlett, Larkin, Mann, Silsbury and Ward

BR Standard Freight Wagons
David Larkin

British Railways Wagons – The First Half Million
Don Rowland

The Art of Weathering
Martyn Welch

Backtrack Vol. 1 No. 5



FILLING CORNERS

Tricky things corners - on fixed layouts there's often scope to build a street scene or industrial area up against a wall or backscene. These days there are plenty of kits and detail packs to choose from in virtually all scales. American or Continental HO scale kits will need 'anglicising' with larger windows and doors, blank off any 'tracery' with brick sheet.

What about a CCE yard? There are some lovely RTR engineers' wagons now available as well as the many kits that have been on the market over the years, so a CCE yard is a must! It can form a major part of your layout, as well as being a useful 'filler' for an awkward site as on 'Hayley Mills'. It's also another excuse to use all those lovely detailing kits to reproduce all the ordered clutter found in the yard - happy modelling!

ROAD VEHICLES - CREW BUSES, DROPSIDE AND FLATBED LORRIES, EXCAVATORS, CRANES, GENERATORS, - ALSO FUEL TANKERS TO SUPPLY REFUELLING POINT.

REFUELLING POINT FOR TRACK MACHINES ETC.

OLD CONTAINERS ARE OFTEN USED FOR STORAGE.

YARD PILOT FOR LARGER YARDS...

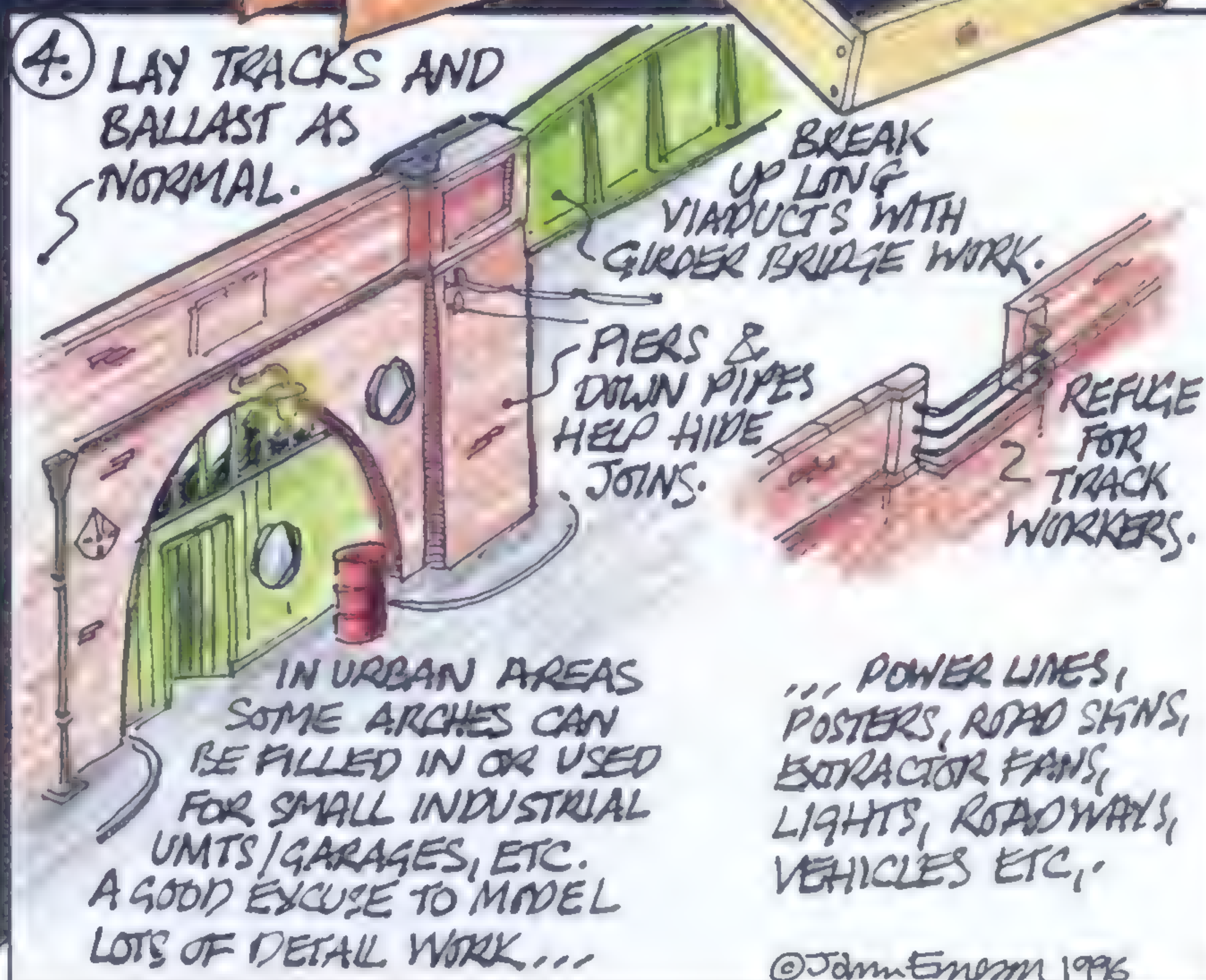
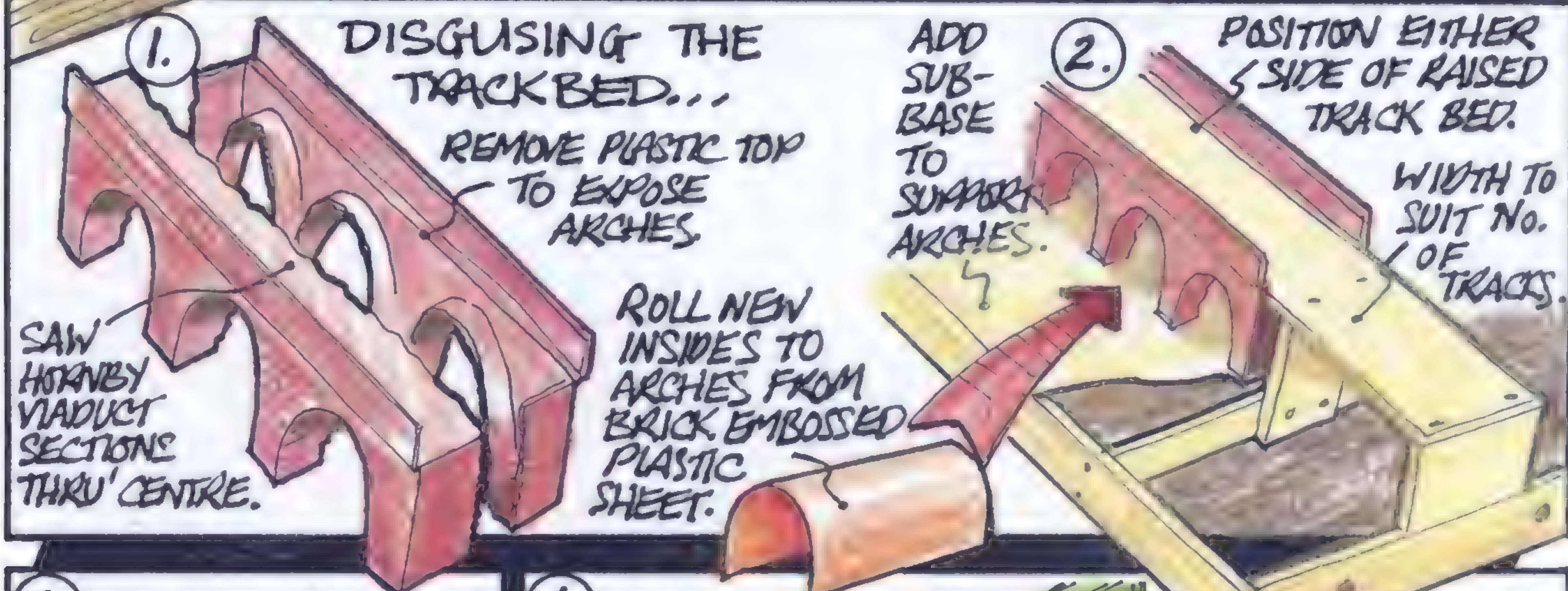
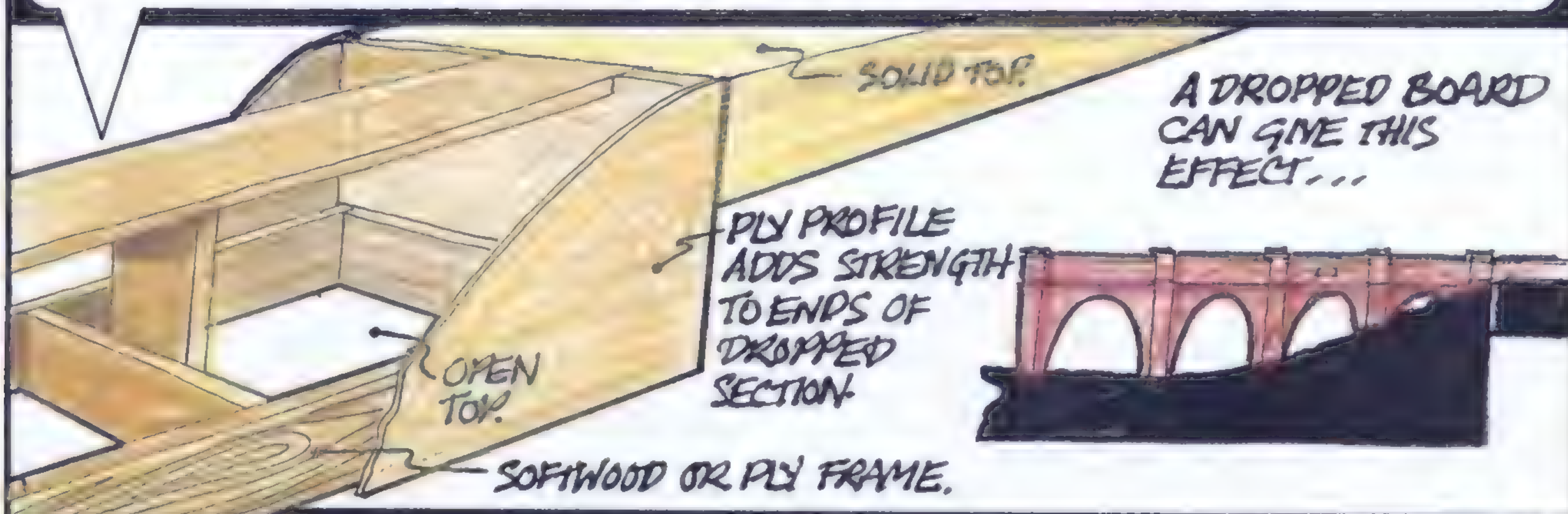
'CLUTTER' - PALLETS, OIL DRUMS, POINT MOTORS, MAS DUCTING, CABLE DRUMS, ETC.

MESS & OFFICE ACCOMMODATION, OR USE 'PORTACABINS'.

GROUND FRAME & TELEPHONE LINK TO MAIN SIGNAL BOX.

©John Ennem

We all know that the real world is full of ups and downs, but it's quite easy to give your layout different track levels with a dropped section or baseboard. This is how the viaduct section on 'Hayley Mills' was created - since then other manufacturers have produced useful kits - like Wills 'varigirder' - while Hornby have recently introduced bridges and a viaduct system in their 'Skaledale' range. You could build their new canal system into that dropped baseboard as well!



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Rivendell

Brandon Evans describes his delightful On16.5 layout, which will soon celebrate its 30th anniversary.



Market day specials occupy both platforms but custom (typically) is sparse.

Rivendell is a bit like granny's old oak chest, bordering on antiquity. Although I have lived with it for over 25 years, I had absolutely nothing to do with its first inception or construction, it being completed before I joined the Twickenham and District MRC.

Rivendell was originally built by members of the narrow gauge group as part of an 'L'-shaped layout, the other end being 'Tidmeric', built in 7mm scale 16.5mm gauge or O16.5. Many of the group unfortunately left shortly after I joined, events which I hope were not associated, and it meant I was much more involved with the subsequent effects following the loss of our club room. The clubroom was originally in the local community centre but this was replaced by that edifice to modern society a 'Sainsbury's' supermarket, no doubt indicating the priorities of local government!

Our new clubroom had good storage but not for the angle boards, which meant a rapid redesign to make a straight layout and somewhere along the line



An operators' view sees the tiny Bagnall fussing in between wagons as she takes on coal. Brandon Evans

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a turntable fiddle yard between the two ends was introduced. As the complete layout was then too long to erect in the new clubroom, it usually meant one end or other was erected on club nights. Over the next few years Tidmeric was extended and developed, being exhibited several times, while Rivendell languished unused in the storage cupboard. While Tidmeric seemed to be favoured by most of the narrow gauge group members I always had a preference for Rivendell and when its subsequent disposal was suggested, I had to save it. Mind you I had no idea what to do with it, as the group, by this time, was actively planning a replacement layout in On14 and I was modelling in other scales. Rivendell ended up in my loft, saved but redundant!

For the next nine years we built and very actively exhibited Tidmeric Mineral Railways, our 14mm gauge industrial layout, Tidmeric our 16.5mm gauge layout being dismantled for parts and the bare boards, with trackwork, sold.

No thought was given to Rivendell, apart from occasionally falling over it in the loft, until we were exhibiting Tidmeric Minerals at the Folkstone club's exhibition. During a very pleasant social event on the Saturday evening we discovered that the original Tidmeric boards had

Unusually, the engine shed has not burnt down but the door is only propped open because of a broken hinge.



ended up at the Folkstone club for use as a junior layout, which reminded my fellow conspirator, Mike Chapman, about Rivendell. When he discovered it was still in my loft he suggested we rebuild it as a stopgap while planning and building the next layout. In the cold light of day and now totally sober the realisation that 'I'

had committed to rebuilding the layout, became apparent! So ten years after disappearing into the loft, attention was again focused on Rivendell.

Events changed, the club layout, Tidmeric Minerals, was sold while exhibiting in Germany, we got thrown out of our clubroom, again, with no storage in

One of the problems of an island platform was the need to construct a footbridge.



The Tidmeric Mineral Company is still profitable and has loaned its immaculate No. 6 to the TLR.



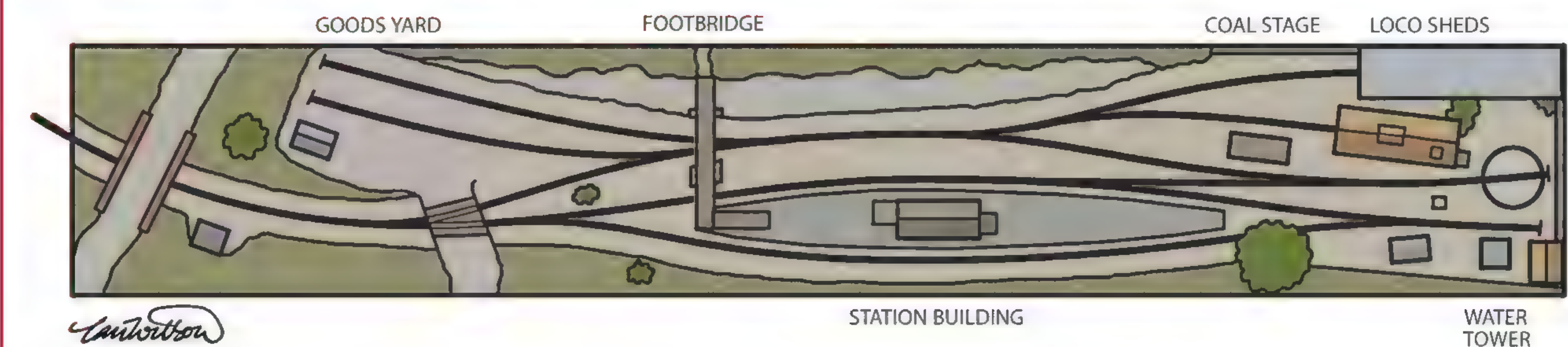
The ex-sewerage works Bagnall rests between runs to and from the quarry on the mineral branch.

the new clubhouse to allow us to build a replacement. Mike left the club due to the inability of London Transport to get him to Richmond and home in under two and a half hours and the stopgap became a dam! To add to this, Rivendell seemed to attract invitations to exhibitions and time to work on the 'out of club' replacement, an Fn3 (15mm/ft on 45mm gauge track) American short line has been affected.

Oh dear, the ex-Tralee & Dingle Railcar has broken down again and the driver has gone off to find a big hammer!



Rivendell Track Plan



Bankruptcy looms and the works looks shut.



So Rivendell got rebuilt, but is it the same layout? The Irishman's broom comes to mind.

Time to take stock, what a sorry sight it made on getting it out of the loft. It had originally consisted of three boards and the above mentioned fiddle yard, together with the top cover. Board three, one of the straightened angle boards, had suffered badly as it was uncovered, the scenery destroyed and part of the board nibbled beyond recovery, by an errant squirrel we later discovered, which was forcibly evicted and further entry blocked! As a result a decision was made to scrap this board, not altogether reluctantly due to its weight, I might add.

The other baseboards were in a good state, which is more than can be said for the trackwork, which was well out of gauge in places with many unsoldered joints. The buildings had become unglued to form

several 'kits' and the scenery faded and some of it mouldy. The stonework, which we originally formed from 'Pyruma' fire cement before the introduction of more durable alternatives, had disintegrated with age.

In view of what a good layout it had been it was all very depressing but, having got this far, I resolved to try to return it to the excellence of the original creators. One advantage perhaps was that as everything was in a such a state anyway there were no anxieties in destroying things to upgrade in the light of changes and advances in the hobby. Another stroke of luck was that Dave Petford [our scenic mastermind of repute] had not yet retired to the West Country, to fish, and was 'railroaded' into helping with the artistic side, never my strong point.

Time to take stock of the positives; first the two main baseboards, which were in a good state and brilliantly conceived in having a simple 2" x 1" perimeter softwood frame on to which 12" deep 9mm (probably $\frac{3}{8}$ " then) plywood skirt was attached. The cleverness of this idea

The notice of closure on the lean-to explains the poor state of the paint on the station, though there are more passengers than normal waiting for a service.



The railcars were inspired by County Donegal Nos. 2 and 3, converted from the standard gauge set bought from the Derwent Valley.



Baldwin (ex-Snailbeach No. 3) delivers coal to the engine shed.





The mineral company Bagnall, complete with the driver's coat draped across the rear cab sheet.

The railcar twins pass a Kerr Stuart 0-4-2T (this one ex-Campbeltown & Machrihanish). These could be ordered in any gauge from 20" to standard.



was that, not only did it made the boards rigid so there are no signs of warping, but they located on a lip on the board below, so forming a protective storage box for that board. The end of each board skirt was cut to the profile of the scenery on the board below so as not to damage anything when stacked. Together with a top cover (which acted as a support for the old Tidmeric station board, when inverted) and end sheets, the layout was thus totally enclosed for storage. This was necessary in the old community centre-based club room as it had to remain on show when other users used the room, but by padlocking the end boards it remained secure. The beauty of this arrangement is of course, seen in its re-incarnation as an exhibition layout, in that it forms its own carrying case for transport to and from exhibitions. One snag, however, was that the original layout included Tidmeric and the boards that I had had never been designed to fit to each other without it.

The boards, each 4' 6" long, had the surfaces covered with more 9mm plywood, supported on 1" square cross members, on to which the trackwork was laid and located on the board below on a lip on either side with locator blocks. These were to stop each sliding on the other and had to be modified to allow the boards that I had, to stack correctly. The attached legs folded down and were bolted to the lower skirt so negating the necessity of leg struts. Unfortunately it wouldn't fit in my



The turntable was installed to turn the Baldwins, following complaints of rough riding going bunker-first.

estate car with the lid on and so the side skirts were significantly shortened on the lowest board. The lid was then modified so when upside down it supported a new 18" long board joining the turntable fiddle yard 3" 6" long from the old layout. This was also modified to slot into the inverted lid located by two small wooden blocks to ensure it always drops into the same place. The lowest board was also fitted with a set of wheels at one end, so it would easily roll into the car, and two short feet

at the other, to allow your fingers under it when on the floor.

Although we could lift the whole layout with just two of us, in deference to our backs and laziness, a trolley was built after the first couple of exhibitions and, in most places, it is now any easy stroll from car to our allotted place. Mind you we have been caught out by exhibitions which were up or down multiple flights of stairs and going up in a 4' square lift taxed our ingenuity!

The yard road access, complete with steam crane and die-cast Volvo by Conrad in Germany.





This plate girder bridge represents the link between Rivendell and the rest of the world - actually the fiddle yard.

OK, so we now had a 14' long baseboard, virtually no electrics (same rodent), variable gauge trackwork and no buildings.

The existing rail was, in the main, resoldered to the copper clad sleepers, all the point frogs rebuilt and all the wiring was replaced but, bearing in mind this was supposed to be a quick project, the sectioning, control panel and point motors (H&M solenoids) remained. The buildings, mostly made from wood, were rebuilt, although the original station building had suffered the most and only the roof survived. A few ended up in different

places and I could never get the door to stay on the engine shed, so it remains propped up on a piece of scale 6" square timber to this day. Well, as the notice of closure on the station building confirms, bankruptcy doesn't leave anything for repairs! The fences were all rebuilt; a quick peek around the back will show them to have originally been Chinese wooden calendars from our local takeaway, still with their original lettering. What a shame our local now supplies them only in plastic. A few new fence boards were added, staining them with alcohol-based black wood dye very heavily diluted with

methyated spirit. When dry, this gives a very satisfactory silver grey of old wood. All the stone work was replaced with 'Tetrior' filler and carved with a carbide scribe. Dave did a fantastic job of replacing the scenery and we were off to our first exhibition.

The trees, incidentally, are made of etched-brass leaves, soldered to a metal sprue, by one of our lady members as a demonstration of Scalelink etchings.

It rapidly became apparent that the section breaks were in the wrong place. Kadee couplings didn't like the curves for coupling or uncoupling either, and the permanent magnets for them were in the wrong place and always uncoupled at the wrong time. The headshunt was too short for the railcar and 20 year old H&M solenoids failed a lot! The 'quick rebuild' was becoming longer.

Trackwork

This was code 70 flat bottom rail soldered to PCB sleepers, the points being a combination of stub and standard types. One of the interesting aspects of the layout was the stub points which were primarily used on industrial lines but their operation had become erratic due to the solenoids bending the stops, leading to misalignment. As the old point motors were beyond re-use they were replaced with our, by now, standard slow motion point motors. These are made from second-hand coreless motors with integral gear heads. These are held in spring clips below the baseboard and work the point via a length of piano wire

Baldwin (ex-Snailbeach No. 4) in a very poor state of repair coals up for its return trip.



attached to the motor shaft and located in a small hole in the tie bar. They simply stall at the end of their travel. The trick is to power them *via* a resistor that limits the load on stall and prevents motor burn out. Load on stall is about 20milliamps. As this also limits the power, a little trial and error is required, too little and it is far too fast and bends the wire rather than stalling, too little and it won't move at all. Use over the last 20 years has proved them to be completely reliable. The fact that they stall on load means there is firm pressure on the stock rail at all times. You can use a standard DC motor but stall current is much higher and therefore a higher wattage is required for the resistor. They are available commercially as 'Switch Master' for the coreless type, while 'Micro-Mark' sells a non-coreless type. Both, however, need to be mail-ordered from the USA, unfortunately, as so far I have not found a British supplier.

Control is by means of a double pole double throw (DPDT) switch, one side reversing polarity of the motor while the other changes the polarity of the frog. This, of course, meant changing all the

switches. Together with changing the section breaks, replacing all the magnets in different sites with electromagnets, both also needing switches, a new panel had to be built. With new jumper cables to the baseboards, having to replace the wiring yet again, together with fitting a turntable, I was beginning to think it would have been better starting from scratch!

It is still possible to get cheap second-hand motors but with electronics replacing mechanics in industry they are getting scarcer. However, we have just acquired a further supply for the small layout we are building for our publicity stand at the club, and they cost only 40% of a 'Tortoise' point motor, which gives a similarly slow movement, so it is worth looking around.

Lighting

As this was to be an exhibition layout, integral lighting was added in the form of a lighting pelmet supported at each end by a solid upright panel thus enclosing the layout in a box. We use ordinary incandescent light bulbs as it allows us to dim them with a standard dimmer to suit the exhibition site, although having a cover over the top would help when everything gets washed out by very bright sunlight.

With this type of lighting it is important, however, to model under the same lighting to ensure the colour looks correct when artificially lit. A plain backscene was added to hide the unsightly stomachs which somewhat detract from the realism of the scene!

Stock

Mike made up for the fact that he had rather forced me into the rebuild by supplying all the goods stock, a lot of it scratch-built, while I took on responsibility for the rest. However, bearing in mind that I haven't actually modelled in On16.5 for a long time, most of the stock comes from Rivendell's first incarnation. We have three Baldwin 4-6-0Ts, the prototypes being made for the War Department for use on the railways supplying the front in World War 1. This accounts for the turntable, as in practice they ran very roughly in reverse, but it was the Glyn Valley that actually installed a turntable for theirs after complaints from their drivers. Our models seem to run better in reverse! All have been built from kits, at least once; two Wrightlines and one Roger Chivers kits, all with different motors, all by different builders. Dave Petford built Snailbeach District Railways 722 and *Camelot* was bought already built and is on loan to Tidmeric Light Railway (in case you wondered why all the stock was lettered TLR). For a company in receivership, it was a little too 'new' so ended up heavily weathered, much to the surprise of its

The petrol pump was installed when the railcars were introduced. No health and safety in those days!



owner. As it is blue, like the other mining company locomotive, it really should be allocated to them. The blue of our mining company locomotive is due to Colin Kelly who paints all his locomotives in this colour. It was he who built the Roy Link Bagnall saddle tank kit, complete with heavy rust, West Indian driver and coat thrown over the rear rail. It is now on its second motor and axle bearings and third set of wheels.

We have two Kerr Stuart 0-4-2Ts, *Princess* from the Campbeltown & Machrihanish and No. 2 from the Snailbeach. The first scratch-built over 40 years ago and heavily rebuilt 25 years ago but remarkably still has its original wheels, bearings and Sagami can motor. Perhaps the old fashioned $\frac{1}{16}$ " brass frames, phosphor bronze bearings and Romford wheels was the right way after all? The second is a recent Wrightlines kit, the chassis being modified along the lines of *Princess*, with the same type of motor and 80:1 gear ratio. Passenger are dealt with by a scratch built railcar based on the early County Donegal railcars bought from the 'Derwent Valley Light Railway, and narrow gauged. They had to lower the body on the chassis when the gauge was changed from standard to 3' 0" as they were top heavy but it did lead to a quaint appearance. They run back to back, which they never did on the Donegal, but we hadn't installed the turntable when they were built 25 years ago. Coaches are modified Peco four-wheelers, joined on a scratch-built bogie chassis. Built for Rivendell Mk. 1, I'll eventually get around to

glazing the windows, but at least they look clean. A Clogher Valley short coach built from a kit completes the line up.

Philosophy

You might wonder why this is at the end rather than the beginning but as this layout was built back to front we had to fit it in with what we had.

The fact that the modelled prototypes vary from 2' 0" to 3' 0" gauges shows we are not exactly sticklers for authenticity! Selection of prototypes of about the same size or fitting slightly smaller diameter wheels does let you get away with it, however. The intensity of service required by an exhibition layout is also somewhat at odds with the latter years of narrow gauge when, perhaps, twice a week would be generous. Despite this we have attempted to give it the typical appearance of a run down narrow gauge, one just prior to closure, with sparse passengers and an overall weathered and worn look, not over loading the layout with features and with a muted overall colour palette.

FAQ from exhibitions

No it doesn't represent anywhere in particular although, operationally it probably follows the Lynton and Barnstaple in concept.

Whether the name arose from the original builders' interest in the *Lord of the Rings* I never did find out.

The rocks were made of dental plaster in home-made rubber moulds. Commercial moulds by Woodland Scenics are now available but I think Dave's idea of using once-only moulds, using old 'Plasticine', which were used extensively on Tidmeric Minerals, allows much more variety, is very cheap and look just as good. They are then spray painted, followed by a light weathering coat and dry-brushed to bring out the highlights.

The fiddle yard has no fancy electronics, the alignment and power supply being dealt with by two home-made bolts, one to either side of the rail on the turntable, made from $\frac{1}{8}$ " brass rod in brass tube.

Kadee couplers: these are not really UK prototypes but at least give the centre buffer appearance of narrow gauge couplings. I have now used these in various scales for over 30 years and they are reliable, robust and uncouple 'hands off' most of the time! They really need more straight sections than we have to be 100% reliable, made worse by the long overhangs on narrow gauge stock, leading to misalignment.

That's it: Rivendell is coming up for its 30th birthday and 50th exhibition, but is it the same layout? You decide.

The loco shed and works, shadowed by the Scaelink tree.



An award winning 'Lanky' van

This Lancashire & Yorkshire Railway refrigerated van, scratch-built by American modeller Scott Maze, won the Brian Askew Shield at the 2006 Gauge O Guild's 'Guildex' event at Telford.



Lancashire & Yorkshire Railway refrigerated van No.36975. Scratch-built in 7mm scale by Scott Maze, the model won the Mike Midgeley Trophy (for non-kit built goods or service vehicles) and the Brian Askew Shield (for goods or service vehicles) at this year's Gauge O Guild Guildex event at Telford.

Tony Wright photographed this superb model of a Lancashire & Yorkshire Railway refrigerated van at the Gauge O Guild's annual Guidex showcase event at Telford this year. The builder was American modeller Scott Maze from Walnut Creek, California, and the model had - deservedly - just won the Mike Midgeley Award and the Brian Askew Shield in the annual modelling competition. Scott is no stranger to Guildex or British railways, having previously won an award with a Butter Van three years ago. O gauge modellers may also remember his LNER CCT, Midland 'Spinner' and LNER B1. He kindly agreed to give a brief description of the construction of this latest model.

'This van is pictured on page 76 of *L&Y Wagons Volume 1* by Noel Coates (Wild Swan 1990), with the end of another van also pictured on page 85. Plans for a nearly identical LNWR van (there are apparently no plans available for the L&Y version which was built later) were obtained from the Lancashire & Yorkshire Railway Society, and were followed except for L&Y variants either known or evidenced by the photograph. The van is modelled as pictured - not new, but in good repair with only moderate weathering (the roof pictured was originally white).

The model was scratch-built using board-by-board, bolt-by-bolt and bit-by-bit construction, with 719 pieces of

wood used along with 444 nut-bolt-washer (NBW) castings and 388 other individual bits making up the brakes, springs, couplers and other hardware. Except for the NBW castings, all but about 60 of the total were scratch-built using scale stripwood in various sizes, brass sheet, shapes and wire, styrene sheet, and paper.

Just as on the prototype, the walls, doors, floor, ends and roof are double or triple-wall construction, with space in between for insulation (now you know why there are so many pieces!). On the model, this space can be seen in the roof and the tops of the ends; I also broke a small section of one inside wall board at one end for effect.

Essentially every detail on the prototype is on the model and most also operate as on the prototype. The doors open using scratch-built hinges and operating door lock mechanisms and latches (the closed door on the model cannot be opened without being unlatched at the handle and the bottom), the refrigerator hatches operate using scratch-built hinges, the journals are sprung with working scratch-built springs. The couplings are also sprung using operating scratch-built springs.

All the iron rodding, plates, and gussets used to hold the prototype together, especially the underframe, are modelled. In some cases the NBW castings actually help hold bits on the model. NBW assemblies are in two pieces wherever both ends show, with the ends flat on the inside of the van to

represent bolt-heads.

The model was painted using Floquil colours, 'Engine Black' for the iron and a mixture of 'Refrigerator White' and 'Antique White' for the body. The Ice tanks at the ends were painted Floquil 'Grey' to represent galvanized metal while the meat racks were painted steel. All lettering is dry transfer, applied letter-by-letter. The exterior, interior and underside were brushed with a combination of Bragdon Enterprises weathering chalks to give a 'used but in good repair' look.

I built, painted, lettered and weathered the model without professional assistance. Did I know just how complicated the model would be when I started? No!

Would I build another like it? NO! But, like climbing a mountain, I can say that I did it!

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The L&Y refrigerated van with the roof removed to show interior and construction details including meat hooks and ice hoppers. More than 1,500 separate parts went into this scratch-built model including 444 bolt heads. The bolt head detail had to be added in two parts - what was visible on the outside together with the corresponding position on the inside of the van. Opening doors have working hinges and catches.





One of the significant benefits of DCC that I enjoy is independent control of lighting in locomotives and rolling stock regardless of whether they are on the move or stationary. This view of my small exhibition layout, Platform 4a & 4b, has a Bachmann Class 57 on the dummy line and a Class 165 on the operating part of the layout. Both models have their lights illuminated even though they are stationary. The lights are directly controlled from the DCC throttle (or cab) and can be switched on and off independently of each other. The intensity of the lighting remains constant during operations.

Going digital

Nigel Burkin looks back to his decision to 'go digital' five years ago, and his experiences with the technology.

Photography by the author.

We're all beginners at something at some stage in our lives and Digital Command Control (DCC) remains something of a mystery for some modellers (including myself at one time). Although there are many who would like to take the plunge, 'technology' and 'cost' can be barriers to adopting DCC. There is little doubt about its growing popularity in the UK and the introduction of accessible entry level and mid-range sets from Lenz, Bachmann, Gaugemaster and now Hornby will help the undecided modeller to make the transition. I was a convert to DCC in 2001 following a couple of years of indecision, humming and hawing over the cost, the perception that DCC was complex and what the potential benefits might or might not be. Having made the decision to 'go digital' after trying it on a friend's loft layout, I



purchased a 'Digital Plus by Lenz' (Lenz) Compact system in July 2001 together with a handful of decoders. It was a major purchase for me and one which was very carefully considered. Five years on and I now wonder what the fuss was all about!

In this article, I wish to communicate my experiences as a beginner five years ago and of using DCC to control my layout, Platform 4a & 4b, together with the benefits I have discovered. The initial

A typical micro-decoder designed to fit N and Z gauge models. This is a two-function decoder which means that it has the facility to operate two onboard systems such as lighting circuits. Most HO/OO gauge decoders usually have three or four separate functions which can be used to control lighting circuits or even smoke generators in steam locomotives. Decoders are now widely available from a variety of suppliers and manufacturers including Bachmann which released a three function decoder in 2006.

purchase of the equipment can be enjoyable, if costly, retail therapy, most of the initial purchase budget being taken up by decoders. Anyway, who needs an excuse to make a trip to a model shop?

Further gains in altitude on the decoder mountain proved to be a short term drain on the modelling budget. However, as the price of decoders continues to become more attractive, depending on the type, the overall cost becomes less onerous. Since I first started out, the variety of decoders has increased and price against functionality has seen a relative drop in price. For example, Lenz offers high performance four-function decoders with Back EMF (BEMF), silent running features, asymmetrical DCC, RailCom and Uninterruptible Signal Processing (USP) capability for less than the price



I must confess to having some fun playing with the Bachmann train set on my kitchen table. The oval track only just fitted on it and I had to string the transformer cable over the track so I could place the controller in the centre of the oval. The controller is very simple to use, offering ten push-buttons for the control of ten locomotives including one not equipped with a decoder. Function buttons and emergency stop are also included on the controller. Control was smooth and it was intuitive to use.

of some lesser decoders produced only five years ago. If you do not wish to have decoders with this level of specification, there are many less-expensive options, with fewer features to suit most budgets, to choose from.

Deciding – the anecdotal stuff

The rationale behind my decision to 'go digital' needs to be explained. The construction of the first of my two (then) new exhibition layouts, Dudley Heath Yard, was followed by an intense session of wiring and control panel construction to equip it with 'cab control' to work with a pair of KPC hand-held controllers. The layout was compact with a scenic

section of 8' 0" together with 4' 0" ft of fiddle yard. To obtain the operational flexibility for shunting and train operation, the layout was divided into nine sections controlled through DPDT switches to enable dual control. In addition to that, there were six isolation sections for locomotive stabling. Two separate transformers were required to enable trouble free operation with the pair of hand-held controllers and common return wiring. This project evolved into an exercise in spaghetti and soldering.

Controls for points, signals and trains were grouped together on one control panel that took many weeks of careful work and testing to complete. I now

Bachmann offers its DCC system in train sets and individually, with a number of products to support it including decoders and models with 'DCC on board'. The train sets are aimed at the newcomer to the hobby whilst the individually available controllers will appeal to modellers who wish to try DCC without committing too much money. The train set shown in this picture is very easy to use and comes with comprehensive instructions, a locomotive ready-fitted with a decoder and the controller itself.

realise that DCC would have saved me a considerable amount of work but it did not save the layout – it was scrapped when its shortcomings were laid bare by the adoption of DCC and the difference in approach to operation.

As structural work on my second layout - Platform 4a & 4b - progressed, I was faced with a smaller version of the same wiring exercise and this made for a pause in the track and electrical planning process. How could I get the operational flexibility from such a layout with a scenic section measuring a mere 8' 0" in length without resorting to so much wiring? Good question!

At about the same time, I was toying with (DC) lighting systems, having purchased a couple of kits from Express Models, particularly orange door warning lights for multiple unit stock. Whilst the systems worked well, my researches into DCC and decoders showed that a simpler and less costly route for lighting existed, one that would eliminate batteries and recharging from the equation, but with some different practical difficulties. All of these issues came together at about the same time and required a definitive solution before costs got out of control. Although battery or capacitor supported lighting systems offer constant lighting in locomotives and rolling stock, the cost of installation



Hornby's long-awaited entry into the DCC market had still to be launched as this article was being written. This is the twin-control Elite unit from the new range which we will be looking at in detail in the pages of *BRM* soon.

was looking fairly prohibitive. I needed to increase the dynamics of the layout for exhibition use and to increase the play value for me together with interest for the viewer. By all accounts (assisted by subliminal messages concealed in seemingly innocent emails from Steve Jones) DCC offered the most sensible solution, but I knew little of this system beyond the most basic functionality.

Following a few months of careful research into various products including Digitrax, ZTC and NCE, and getting to grips with the NMRA DCC standards (well outside the scope of this article and not absolutely necessary), the Lenz system emerged as favourite. I was further convinced of the Lenz Compact on the very day I went to Howes Models to make the purchase – I liked it because it is an ideal starter set. If it transpired that I failed to understand it, the cash outlay was not as horrendous as it may have been if I had bought an advanced set. At the time, it appeared that the advanced sets were probably over the top for my requirements and the Compact, with its two-figure locomotive addressing, offered all of the functionality I would need in terms of operational flexibility, but at a much lower price. And so it turned out in practice.

The lesson here is that the locomotive decoder is key to the success of this system. Modellers running large layouts with in excess of 100 locomotives or requiring a computer interface will need the more advanced Set 90 or 100 (superseding Lenz Set 01 and Set

to get something running quickly. A Heljan Class 47 was cracked open and equipped with a decoder in 30 seconds flat by simply removing the dummy plug from the decoder socket and inserting the eight-pin decoder plug. A quick twist with pliers did away with the capacitor designed to prevent TV interference. Two wires ran from the Compact to my length of track for operation. Two wires provided power to a separate length of track for programming. Finally, two wires connected to the transformer for power. This accounted for another five minutes work with a small screwdriver supplied with the Compact.

The Class 47 was placed on the programming track and tested according to the instructions before placing on the running track and



The Bachmann 'E-Z Command' DCC system can be expanded with additional controllers which are connected with leads that plug into the rear of the Control Centre. There are four sockets in the rear of the control centre. From left to right you have the 'X-Bus' socket for the connection of additional devices. Next is the output socket which is connected to the track. The third socket accepts the power cable from the transformer. The socket on the extreme right is an analogue input socket for with a Bachmann DC analogue controller.

02) for four-figure decoder addressing. Interestingly enough, I outgrew the Compact after about 18 months of use as I adopted more technology such as lighting systems and most recently, DCC sound.

Plug and play - almost

Returning to the story, I cannot remember the last time I was so keen to get home from the model shop (or any other shop for that matter) to get started on my new acquisition. That Saturday evening was taken up with admiring my purchases and reading the manuals. My first impression when the kit was removed from the box was the simple styling and quality construction of the Compact. Was it really plug and play? Well, a five foot test track was used

operated for the first time on default address 03. And that was the moment when I realised that I had not made an expensive mistake. I recall spending the evening installing the remainder of the decoders in various locomotives and having fun testing them on the short piece of track, singly and in pairs, switching the lights on and off and generally having a ball.

Plugging into Platform 4a & 4b

Only two wires (layout BUS) were required to get the layout up and running. Not literally, of course, because the layout was divided into sections to allow for wiring of hand-built points with metal crossing vees and the need to feed power into the toe of such points to



Bachmann is in the process of developing models with 'DCC Onboard'. This means that a decoder is factory installed and the model is delivered ready-to-run on a digital layout with the default address 0003 which can be selected using button three on the controller. This Freightliner Class 57 model came with 'DCC Onboard' as identified by the blue-and-white sticker on the box. DCC does not come any easier than this and the decoder is NMRA compliant which means the model worked perfectly with my Lenz system too.

prevent short circuits – exactly the same as for DC control. However, there are no cab control sections or isolating sections in the track layout and associated wiring running back to a switch panel via multi-pin connectors. The whole layout is live (think what that can do for coach lighting) and each track is supplied from two layout BUS wires rated 2.5 amp which run the length of the layout from the back of the Compact and subsequently, the Lenz LZV100 which has replaced the Compact. Each baseboard joint is bridged with a jumper lead containing just the two BUS wires that run to tag strips. DIN plugs ensure that the jumper wires can be separated when the layout is dismantled for transport and storage. One tag strip under each baseboard provides a convenient terminal junction from which each individual running rail is supplied with current via dropper wires.

The points are operated with Circuitron Tortoise point machines. They are wired to the DPDT terminals for crossing vee polarity change in exactly the same manner as required for a DC layout, the only difference being that the equipment wire used is rated at 5A, more than enough for the power supplied by Compact. Hand-built points require no modification to the contacts within the Tortoise to prevent short circuits as the point is thrown; a problem which may arise with some proprietary points when used with DCC.



This is the interior of the Bachmann Freightliner Class 57 identified with 'DCC Onboard'. A decoder is fitted to a recess in the chassis frame and the harness wires plugged into the NEM socket in the circuit board. This means that the decoder could be exchanged for one of a higher specification if desired at some point in the future. The decision not to incorporate the decoder as part of the model's circuit board will be widely welcomed. Nonetheless, 'DCC Onboard' makes DCC more accessible to the newcomer to the hobby and those modellers that do not wish to become too involved with the technical aspects.

In fact, most of the wiring installed in Platform 4a & 4b supplies the Tortoise point machines with 12v DC and is run through to each baseboard in separate jumper leads to keep it separate from the BUS wires which carry 16v AC at 2.5A from a Compact or 5 amps from the LZV100. I decided to retain conventional DPDT switching for points and signals, grouped on a small panel fed from a 12v DC transformer, which was designated as a signal panel as it does not control anything relating to the driving of trains. This is more prototypical, theoretically. The panel is a mere 9" x 6" in size; a marked improvement over the original design and with much reduced wiring.

At this point, it is worth mentioning that a DCC system could be incorporated

into an existing layout operating with Cab Control. Simply remove the existing controllers from the system and hook your preferred command station/booster to the track supply cables. Switch all of the isolation sections to 'on' and you are away. This will enable you to operate your layout straight away and the wiring could then be modified in the future to simplify it.

It's all in the decoder, I think

Well almost, the system's command station is pretty critical too. All of the locomotive performance is in the decoder, so select the type of decoder to suit each locomotive very carefully, taking current draw and performance

into account. Always take time to read the instructions on programming because some minor tweaking can have a dramatic effect on how a decoder performs. My favourite type, the Lenz Gold, seems to perform superbly on default settings in 95% of my collection and this seems to be the way DCC is going – increasingly, the kit requires little attention, it's just plug and play. In some cases, not even plug as in the case of the latest Bachmann 'decoder on board' locomotives.

When I make changes to the decoder settings through 'programming', I keep records of how I programmed each decoder enabling me to improve the performance of the model and match its operational characteristics to those



A significant number of models currently available are described as 'DCC-Ready' and can be identified by labelling on the box. This does not mean that the model is ready to operate on a digital layout - what it does mean is that the model will readily accept NMRA compliant decoders fitted with a harness and plug. The internal circuit board of the model is equipped with a socket into which a decoder is plugged, with the orange harness wire aligned with the No.1 socket.

of the prototype without losing track of the changes. Maximum speed, braking and acceleration delay can be changed together with a range of other characteristics such as starting voltages, activating features such as asymmetrical DCC, Dither, lighting effects and a function to turn BEMF off if required, depending on the type and make of decoder.

The total current draw of the model's motor and onboard systems must not exceed the current rating of the decoder. To that end, the Lenz Gold and Silver are rated at 1.0A continuous, 1.8A peak which is more than adequate for OO gauge locomotives, although Heljan models can draw surprisingly large amounts of current.

Some decoders have a harness equipped with wires and a NEM plug to fit to a model equipped with a NEM socket. Some do not have a plug, making them ideal for soldering direct to motor and current collection contacts. Some are equipped with a JST plug on the decoder itself which means you can interchange the harness and remove a decoder from a model without disconnecting the harness wires.

When fitting decoders, wire them in carefully - red and black wires to track current supply. Grey and orange are connected to the motor terminals. The blue wire is the common return for onboard systems such as lights. This is a positive common wire so ensure that LEDs are wired in correctly. A resistor must



One of my Hornby Class 60s is used to demonstrate how quickly you can convert a 'DCC-Ready' locomotive. The dummy plug is removed and stored in a safe place just in case you need it again. The decoder is plugged into the socket with the orange wire and corresponding pin aligned with the No.1 socket which is identified on the circuit board. Test on the programming track and if all is well (which it should be), replace the body and place the model onto the layout. You do have the option of changing the locomotive address to avoid conflict with other models in your collection. All the instructions in every DCC system I have seen explains how this is done and explanations of error messages for the rare occasions when they occur.

be included in each circuit, in series with the LED to protect it.

Each decoder should be fitted with a sticky pad or similar to insulate it from metal surfaces in the model. You must avoid short circuits at all costs and the comprehensive instructions supplied with decoders often warn against making contact with metal. If a decoder looks as if it may come into contact with metal, apply insulation tape on the offending surface before fitting a decoder. Unused function wires are cut at an angle and either sealed with 1.6mm heat shrink sleeve or temporarily with tape until the sleeve can be fitted. Don't remove any wires from a decoder with soldered harnesses because this can invalidate warranties.

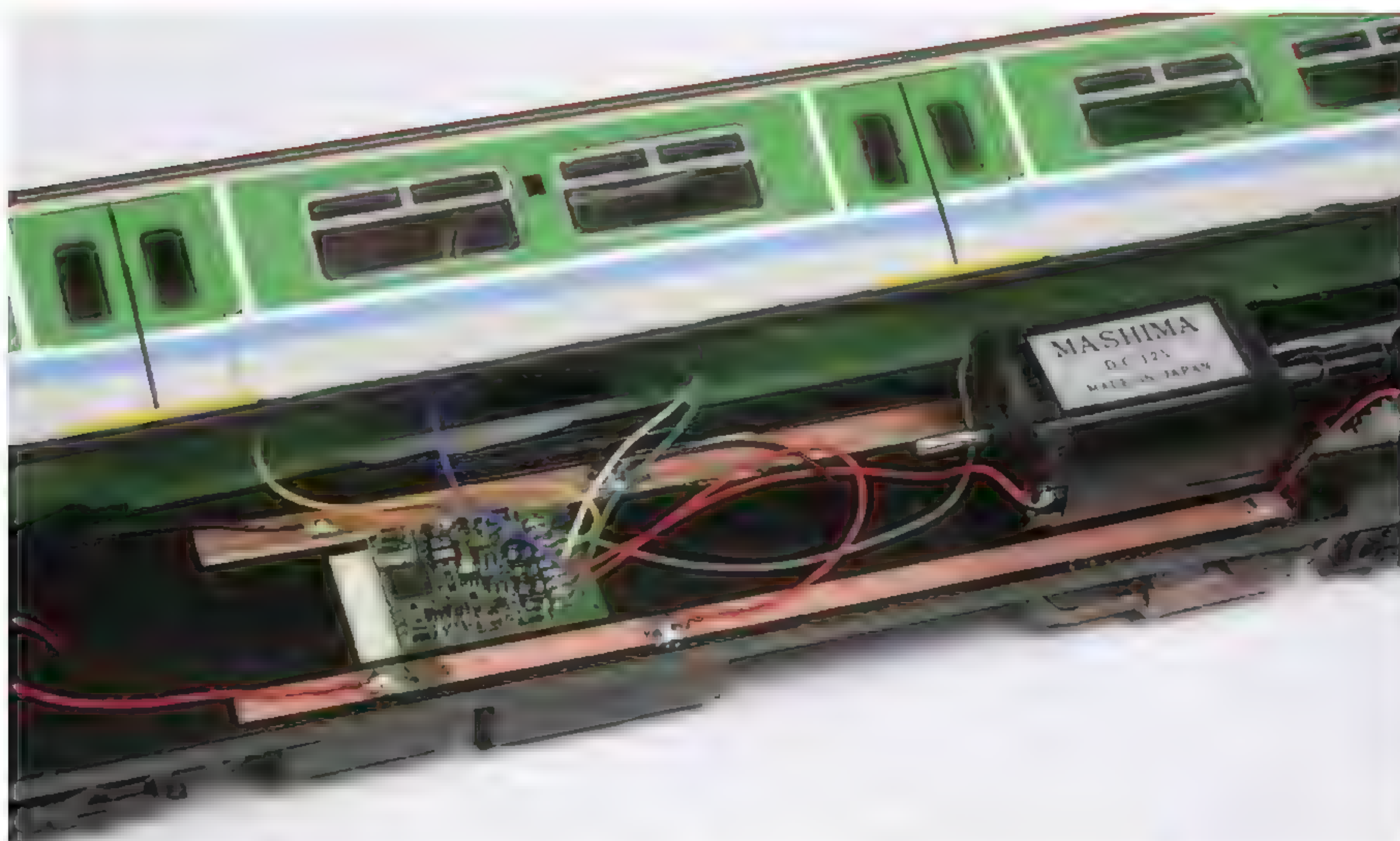
Decoders that conform to the NMRA standards will operate on any DCC layout, be they micro-decoders for N and Z gauge, 'normal' ones for OO/HO gauge or the large units for O gauge and beyond. Do not worry about having a mix of different decoders as long as they suit your models. My collection relies on decoders from Digitrax, ESU, Lenz and TCS - each chosen to suit a particular model.

The benefits

The benefits will become obvious as you become familiar with controlling and driving trains with a DCC system. The first thing that becomes obvious to me

is that the direction of travel is relative to the locomotive and not the power in the track. This means, when operating a steam locomotive, 'front' or 'forward' really does mean forward and that should be boiler first. Turn the locomotive around without changing the direction switch on your controller and the locomotive will still run boiler first if set to run 'forward'. The direction change switch on your controller literally means that you change the direction of the model, in the same way as you would use a reversing lever in a real locomotive, not the polarity of the track power.

Two benefits I found significant when adopting this technology were constantly illuminated lighting with independent control, and the ability to



Some models, including kits, do not come with a suitable eight-pin socket. In this case it is necessary to solder the decoder harness wires directly to the various terminals in your model. Those terminals include the motor terminals and those connected to the current collection mechanisms of your model.

drive trains wherever I liked on the layout without having to throw a single switch to power track circuits. Isolating sections became irrelevant and it was possible to independently drive one locomotive on the same line as another and bring them to a stand within millimetres of each other in locations such as stabling points and yards. One of my most recent discoveries, which has added a significant new dimension to the hobby, is DCC sound, and sound in model railway applications is becoming increasingly sophisticated. It will not be long before models become available off-the-shelf with DCC sound decoders fitted as standard as is now common with US-outline models.

Ultimately, the key benefit that does not immediately become apparent is one of flexibility in operation of a layout. The freedom to control trains and drive them properly and have control of onboard systems such as lighting and sound is the ultimate flexibility and feels very natural. Small layouts benefit hugely in making them flexible without the wiring. Large layouts are enjoyable to operate because you can select your train and follow it around the layout, obeying signals and other operational rules without the constraints of operating a control panel to switch track circuits and isolating sections.

It is possible to operate layouts designed for shunting without any control panel at all. Points can be hand thrown locally by the train operator. Main line running can be controlled through route setting using a computer interface

conventional hand-held controller and control panel. The increase in play value was considerable; I had not enjoyed layout operation so much in a long time. However, as confidence grows, the desire to expand the system soon arises and many modellers progress to an advanced system.

To describe all of the benefits and features is not possible in a short article. Things like wireless throttles, point control and computer interfaces are outside the scope of this article. However, DCC is comprehensively covered in *Modern Railway Modelling* and past articles have included decoder and lighting system installation in OO and N gauge, control systems and wiring.



I very quickly grew out of the Lenz Compact once my confidence in DCC grew. There are numerous advanced DCC systems available, each with different features and benefits. Nonetheless, when selecting your advanced system, look for the conformity symbol which means that the system will operate any models fitted with NMRA compliant decoders. Do be aware that not all systems will 'talk' to each other and it will not necessarily be possible to plug a hand controller from one into the command station of another. You should take steps to check for compatibility between systems when it comes to the choice of command stations, throttles and computer interface modules. This picture shows part of the range of advanced products available from Lenz including throttles (also described as 'cabs' because you 'drive' your trains) and the LZV100 command station and booster, all of which talk to each other through a system called Xbus (Xpresnet).

and appropriate software such as that available from Railroad and Co.

In conclusion

Entry-level systems such as the Bachmann E-Z Command Control and the Lenz Compact have succeeded in making DCC more accessible to modellers. The lower cost of such systems removes many of the barriers to entry including a fear of complexity and high cost, as I discovered when I bought a Lenz Compact. It was first used under exhibition conditions at Sunderland in September 2002 and I found it easier to use in exhibition conditions than a

Resources

Websites

www.electriconose.co.uk
www.wiringforDCC.com
www.tttrains.com/dcc/
www.lenz.com
www.bachmann.co.uk
www.mackaymodels.co.uk
www.bromsgrovemodels.co.uk
www.cvpusa.com
www.gaugemaster.com
www.ztccontrols.co.uk

An old Irish Beauty

Tim Cramer builds Waterford, Limerick & Western Railway 4-4-2T No.21 *Blarney Castle*. Drawing and model photography by the author, prototype photographs as credited.



Geraldine, complete with re-railing jacks, as were all the class.

Under a warm evening sky, a train steams easily across the fertile plains of Munster's Golden Vale between Waterford and Limerick, through fertile fields where fine cattle graze contentedly on these lush lands. It is the year of Our Lord 1896 and this is a rather lovely train, much admired by the farmer who pauses in his haymaking to observe its passage. His little son waves to the be-whiskered driver, but that worthy is intent on catching a glimpse of the distant signal and does not notice. Across the track a ganger watches respectfully, taking in the new engine in its gorgeous livery of crimson lake, much embellished with polished brass, copper

Blarney Castle in all the glory of her crimson lake livery. Scratch-built, apart from Sagami motor, gears (40:1) and sprung buffers. Those nameplates are temporary.





With GSWR No.7 on the author's Kilpatrick layout - some colour is creeping into the system at last!

and steel. He knows that the first coach is the Directors' Saloon, carrying the railway's top executives, among them the CME, one John George Robinson.

The majority of readers, at the mention of the name Robinson, will instantly conjure up images of graceful Great Central locomotives like the 'Jersey Lillies' and *Butler Henderson* and so on. Robinson was as much an artist as an engineer and many of his locomotives are still regarded as the very epitome of elegance, in the long history of the steam locomotive.

Long before he took over at Gorton, however, the aesthetic seeds were sown. John George Robinson served his apprenticeship under Armstrong and Dean at Swindon and in 1884, aged only 28, he was appointed Assistant Locomotive Superintendent of the Waterford, Limerick & Western Railway under Henry Appleby. He took over full control four years later when Appleby resigned and a new era of efficiency, colour and elegance began. The seeds were beginning to shoot.

During his 12-year tenure, JG designed

six locomotive classes, all bearing the stamp of combined beauty and function which were to characterise his long career. One such, his 4-4-2T of 1896, is dealt with here. Described as 'having great elegance and balance', it was a truly lovely machine, resplendent in its late Victorian adornment.

These locos, of which there were four, foreshadowed his 1907 Class 9L of the Great Central, but the famed Robinson chimney did not appear until 1899, with his final design for the WLWR, a sturdy 0-6-0 goods engine which bore a striking similarity to his later Great Central 'Pom-Poms'. There were other 'Irish beauties', notably 2-4-0 and 4-4-0 express engines which do not concern us here. Neither does the fact that these once gorgeous machines ended their long lives (some 60 years) in the awful, drab grey-black-rust of the CIE era.

Because I live near the famed old pile, I decided to model No.21, *Blarney Castle*. In fact, more years ago than I care to remember, Mr J J Johnson, then CME of CIE, sent me a 'weight diagram' which languished long among my drawings - never was a model so long-fingered! It was not detailed enough, of course, but from a variety of sources I was able to make the plans shown here.

The front elevation especially was difficult; it took me some time to



View of *Rocklands* from the right-hand side. Author's collection

determine that the upper cab sides were in fact inset from the tank sides. Only a photograph showing a fireiron resting on the tank top and along the cab sides provided some evidence. I accordingly pushed the cab sides in by four inches and this seems about right, as far as I can judge. For the rest, I had enough information to complete the drawings.

Photographs were easier to come by. My good Dublin friend Sean Kennedy had, with his customary generosity, given me several, with the comment that 'surely this would make a lovely model'. Many thanks Sean - it does! Photographs are also available from the NRM collection and from various books.

The model

This was not a difficult project though it was made a little more complex because, conscious of the livery and embellishments, I decided to split the bodywork into units as follows: footplate; cab, tanks and bunker; boiler, smokebox. This entailed a little extra work and took a little longer, but paid big dividends at the painting stage. Assembly is by 12 BA screws.

The chassis, of 0.7 mm brass with 1 mm thick bearings soldered on, is remarkable only for the fact that the front frames over the bogie are tapered inwards to allow the truck to swing on curves. The trailing wheels run in a swivelling 'sort of' pony truck - I tried a



The front frames are angled inwards to provide more room for bogie swing on tight curves.



Robinson's simple elegance is evident in this view before painting.

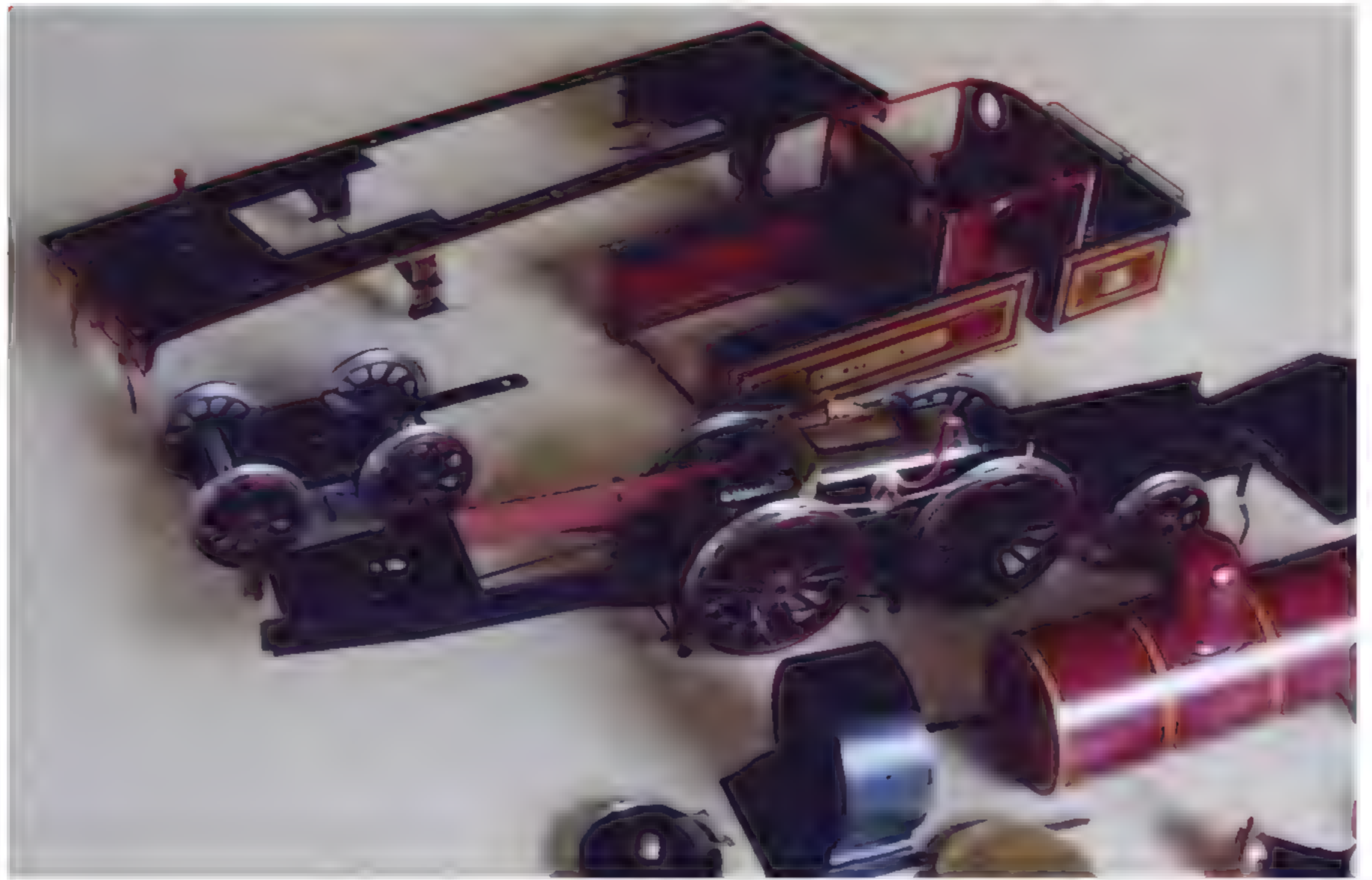


true radial truck but it was not enough for my 54" radius curves. The deception does not show, and it works.

The flat running plate, of 20 thou nickel silver, avoided the usual Irish problem of curved prototypes (eg: Aspinall and Ivatt locos) and the main bodywork (10 and 15 thou nickel) was the usual exercise in cutting, bending and forming. Do note however, that the cabside beading is quite heavy on these locos – I used fully rounded 0.5 mm wire and allowed the solder to form a good fillet.

The highly polished brass smokebox/boiler ring is in fact a full circular disc of 1/16" brass, centre drilled, rounded off along the edge, slipped in between smokebox rear and boiler front and held in place by a 10 BA screw. The boiler front has a similar disc, drilled and tapped to take the fixing screw. The smokebox door is plugged in last, when the brass disc is secured, and held in place with just a touch of Araldite. I do not envisage future disassembly, but you never know.

The lamps, which are a big feature of this loco, were made, after much



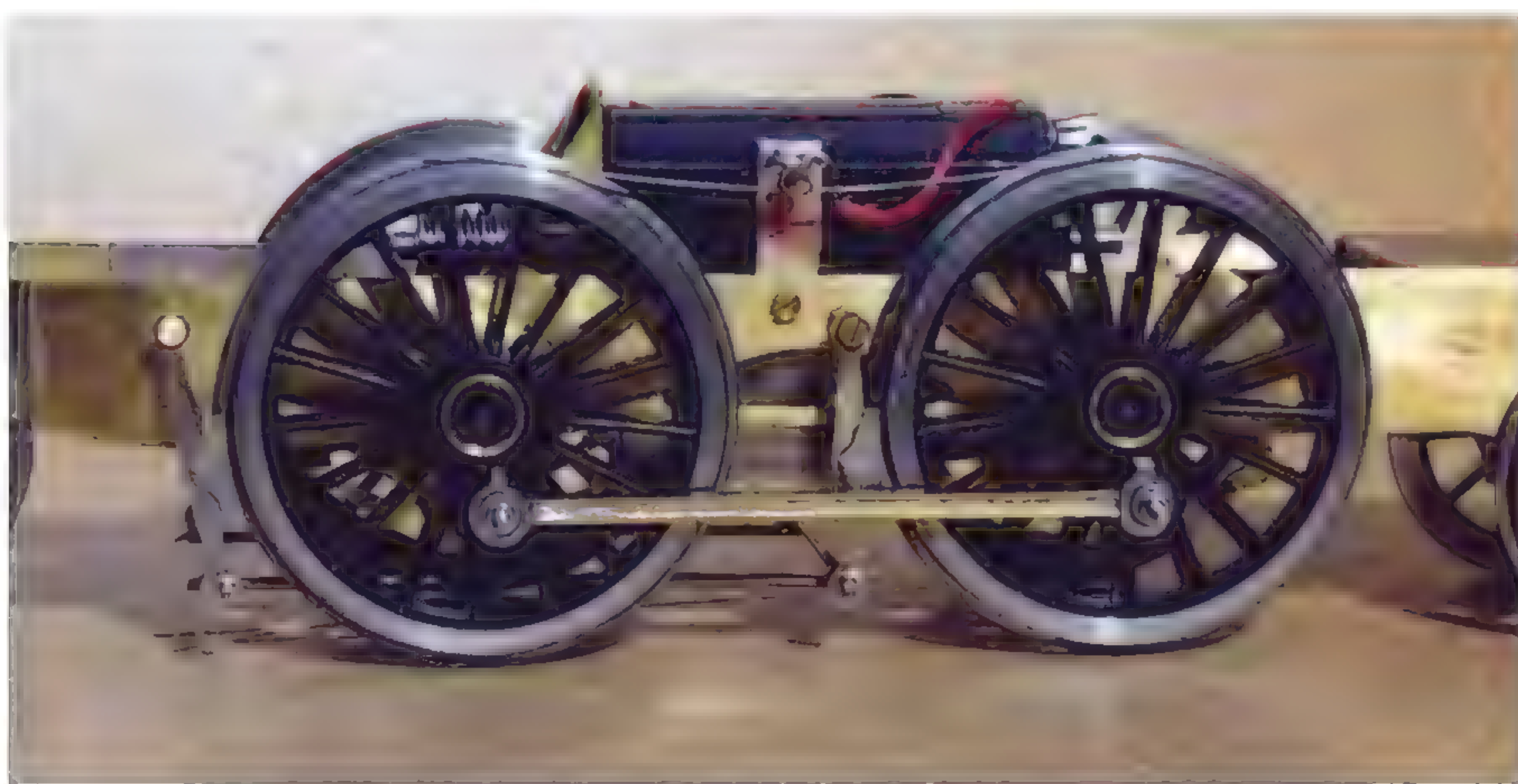
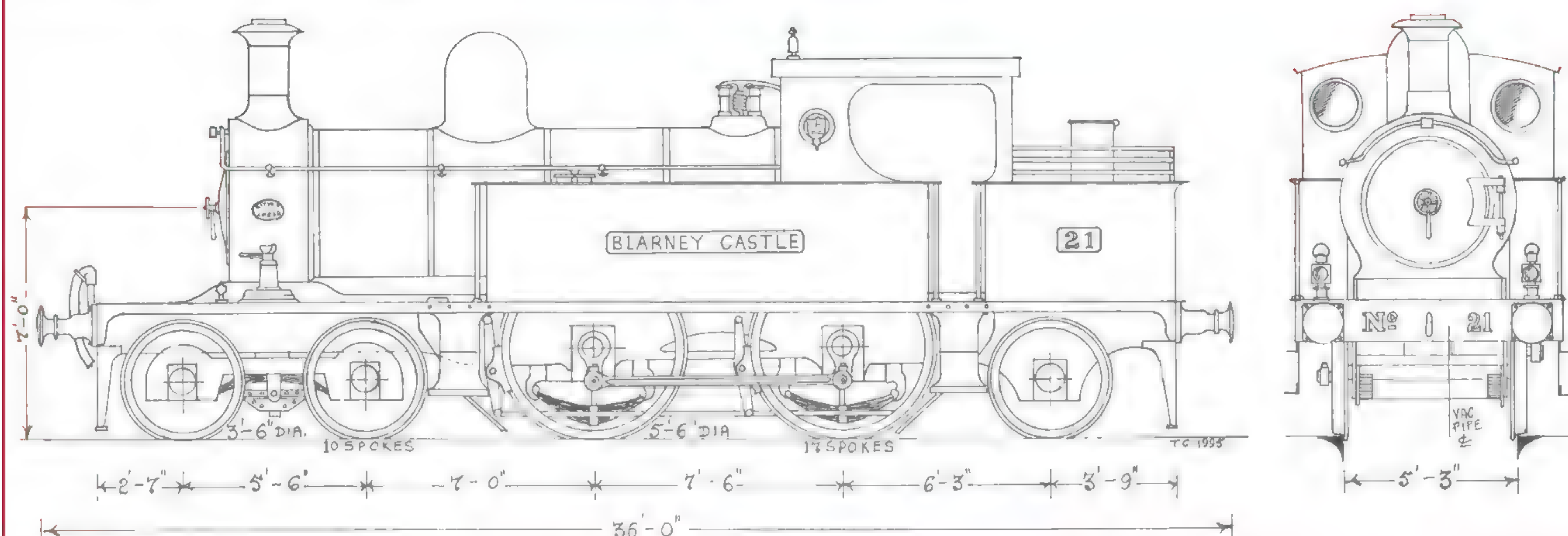
How it all goes together. The separate units involved extra work, but it was well worth it at the painting stage. The brass disc forms the ring between the boiler and smokebox.

thought, from brass turnings, one for the body and one for the lens, that for the body being filed square where necessary (solving these little problems

is one of the joys of scratch-building!). The chimney has a polished copper cap – not normally a problem, but I was unable to obtain copper bar locally. I



Blarney Castle gets some attention, probably at Limerick. Note the typical Robinson smokebox door fittings and the very heavy beading to the cab side opening. Sean Kennedy

Waterford, Limerick and Western Rly. 4-4-2T. No. 21 *Blarney Castle*

The simple pick-up arrangements, which are very effective.

tried phosphor bronze, but it did not look right. Eventually I went back to brass rod and (reluctantly) sprayed the chimney top with a metallic copper paint from my local DIY store. To my amazement, because I hate using metallic paints, it turned out wonderfully.

The main paintwork is mostly sprayed, satin black and Ford Burgundy Red, which is crimson lake as near as dammit. Lining comes from HMRS sheets and the occasional use of a tiny brush. And, oh yes, those nameplates are temporary, until I can get somebody to make me

a proper set, but numberplates are made up from small brass numerals on a fabricated base.

There is still one query about the livery. One usually reliable source insists that all the Robinson passenger locos had polished brass domes. I cannot find any trace of this feature in any of my photographs, which all appear to show painted domes, so I have modelled No.21 in this guise.

Nothing else is remarkable. Wheels are Slater's, motor Sagami, simple pick-ups on wheel tops and off she goes, not for a test run on the Limerick-Waterford line, but to ramble up the lovely West Coast through the market town of Gort and on to the lovely Sligo of William Butler Yeats:

'Where the wand'ring water gushes

From the hills above Glencar

In pools among the rushes

That scarce could bathe a star'

Alas, of course, no more in reality, but within the confines of Kilpatrick, 7mm scale, O gauge - now that's a different story!

No.16 *Rocklands*, as delivered from Kitsons. Maker's photograph, courtesy of Sean Kennedy

A home for a layout.

Wanting a place to put his 'last great project', Tony Wright describes how he went about building a shed.



Complete and *in situ*. Though rather stark at the moment, my wife's intention is to fix trellis work for climbing plants, and stain it darker. Guttering, downspouts and water butts completed the job.

With Stoke Summit still going strong on the exhibition circuit, I was looking for another ECML OO main line project to 'see me out' as it were. Having recently begun my seventh decade on the planet, my prediction is for a ten-year construction period (I'm optimistic as to my life-expectancy and my constructional abilities). Originally I considered Little Bytham, but it now appears that, along with three chums' help, it's going to be Essendine. It won't be for exhibition, though progress will be recorded regularly in the pages of *BRM*.

Project decided on, but where do I put it? A house move two years ago meant I left my previous large shed in Wolverhampton. There, I had a huge garden, but the new site was less generous in size. I investigated a loft conversion, but prices ranged from £20,000 to £60,000! Having set a more

modest budget, for a 32' x 12' space, a garden shed it had to be.

The first thing you need to check are the planning regulations. Unless you live in a listed building and/or a conservation area then they're mainly simple. On visiting my local council (South Kesteven), I was told that as long as a 'temporary' building occupied less than 50% of one's plot, was more than five metres from the building line (including brick outbuildings) and was less than four metres high, planning consent was not required. Some offices insist on a minimum distance from a boundary, so do check. It's wise as well to inform your neighbours what's going on - large, free-standing buildings can be a cause of dispute, so do consult them, even though they might have no right to object.

Right from the outset, I decided that this was a job beyond me. Apart from not

wanting to be responsible for a shanty shack, time is a commodity I'm rather short of. So, with my budget in mind, I set about sourcing what I needed. Garden sheds of all shapes and sizes can be bought at garden centres or DIY stores everywhere, though I wanted something more substantial than 'just' a garden shed, and found exactly what I wanted from A&J Sectional Buildings Ltd, Thrapston Road, Finedon, Northants NN9 5DG. Tel: 01933 68006. Website: ajsectional.com

After inspecting an example of their work, and enquiring as to what was needed in the way of base preparation, I placed my order. For a 32' x 12' 'workshop', the price (including its erection, but no base work) was £4,795.00 - within my budget, and a handsome building, too.

The pictures show how my 'shed' for Essendine was built and fitted out.



1 Even for a wooden building, a proper base is a necessity. Fortunately the ground was very solid and had little slope. No hardcore was needed, and the soil was compacted with a 'thwacker'. Cats are great inspectors.



2 My gang (recommended contractors are best) had fixed all the shuttering after levelling the site. They then sub-contracted a ready-mixed concrete supplier to deliver masses of the stuff.



3 The concrete was pumped from the lorry parked in the road (about 30 yards) and guided into each of the three bays arranged by the gang. Levelling off was done with a long piece of timber.



4 Each bay was reinforced with steel mesh to prevent future cracking of the base. Such a large base must be divided into sections. Earrings, tattoos and fags - my excellent gang had the lot!



5 The concrete has set and awaits the arrival of the shed. The three sections are clearly visible and all the shuttering has been removed. The base (helicopter landing pad) is a foot longer and wider than the shed itself.



6 First on was the floor. Cross members were laid in place and the flooring (a water resistant, tongue and groove chipboard) attached by nails. The shed gang were most complimentary about the base.



7 Floor in place, and its on with the sides. Such buildings are pre-fabricated off site and arrive as a massive kit of parts. Only two guys built the whole lot, though they grumbled - rightly, in my opinion.



8 The customer decides where doors and windows will go, and how many. I stipulated double doors (on one side) for ease of getting materials in. Windows are essential, though they must be secure.



9 The first of the roof trusses have been fixed in place. The construction at this stage is a bit like a rather sloppy cardboard box, but as the roof trusses go in, they tie everything together.



10 The trusses really do add integrity to the structure and it was amazing to see how rigid the workshop started to become. Earrings, tattoos and fags were in abundance again, but these guys worked hard!



11 Though not much of a carpenter myself, I can appreciate decent construction. The roof design meant that each truss was supported each side in a socket, resting on a heavy bearer, then bolted in place.



12 All the trusses in place and the roof longitudinals are being fixed in ready-cut slots. One of the reasons for my choice of structure was the low pitch of the roof - well within my height restrictions.



13 The roof sections had to be slid in place - not an easy job for just two guys, but they coped magnificently.



14 With all the roof longitudinals in place, an idea of the amount of internal space I was going to have was becoming apparent.



15

15 At last, a feeling of enclosed space.



16

16 Just one more roof section needs to be fixed in place.



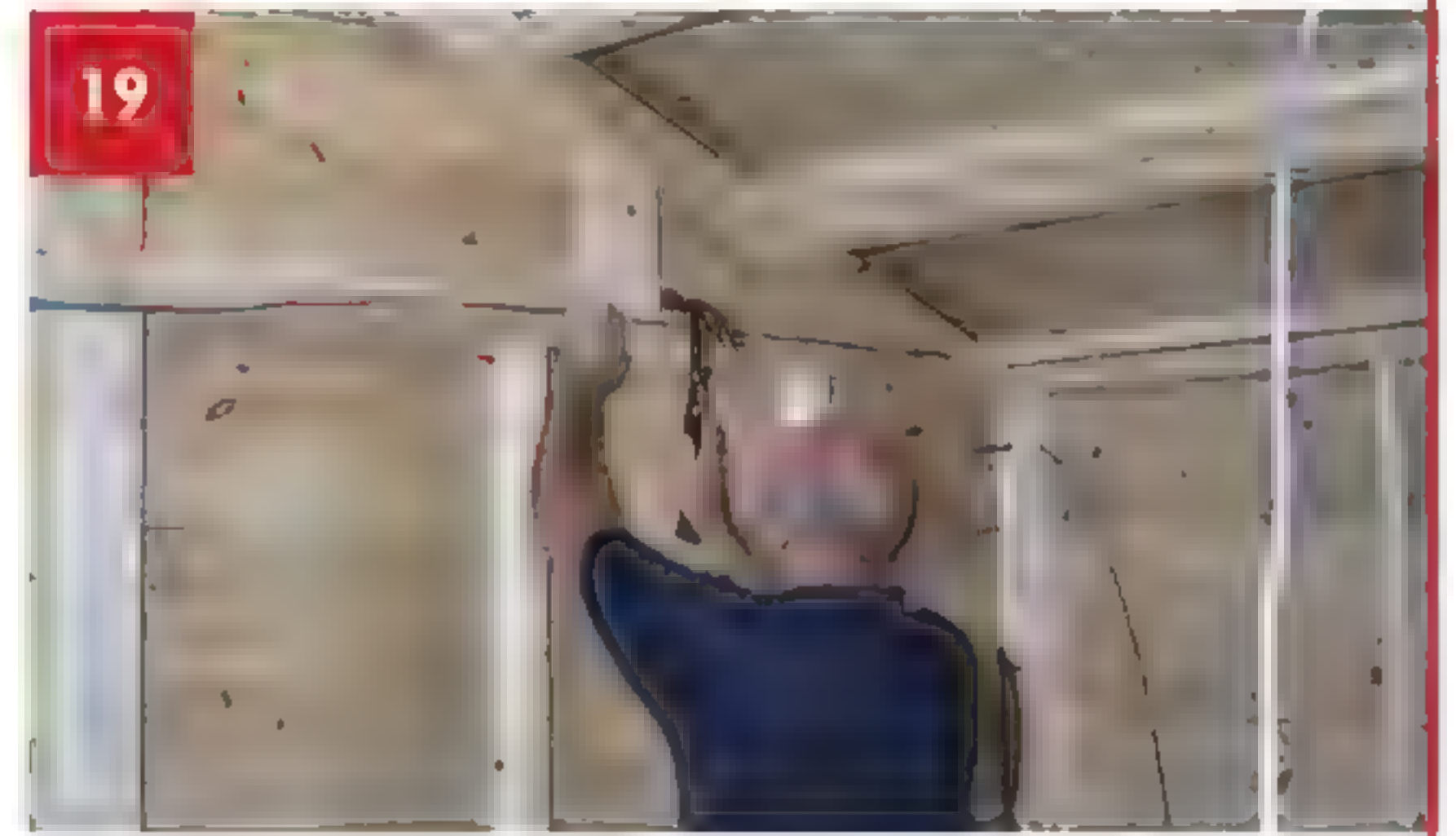
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17 The roof sections on, and it's time for the roofing felt. This was described as 'heavy duty', with a life of at least five years. So much for health and safety.



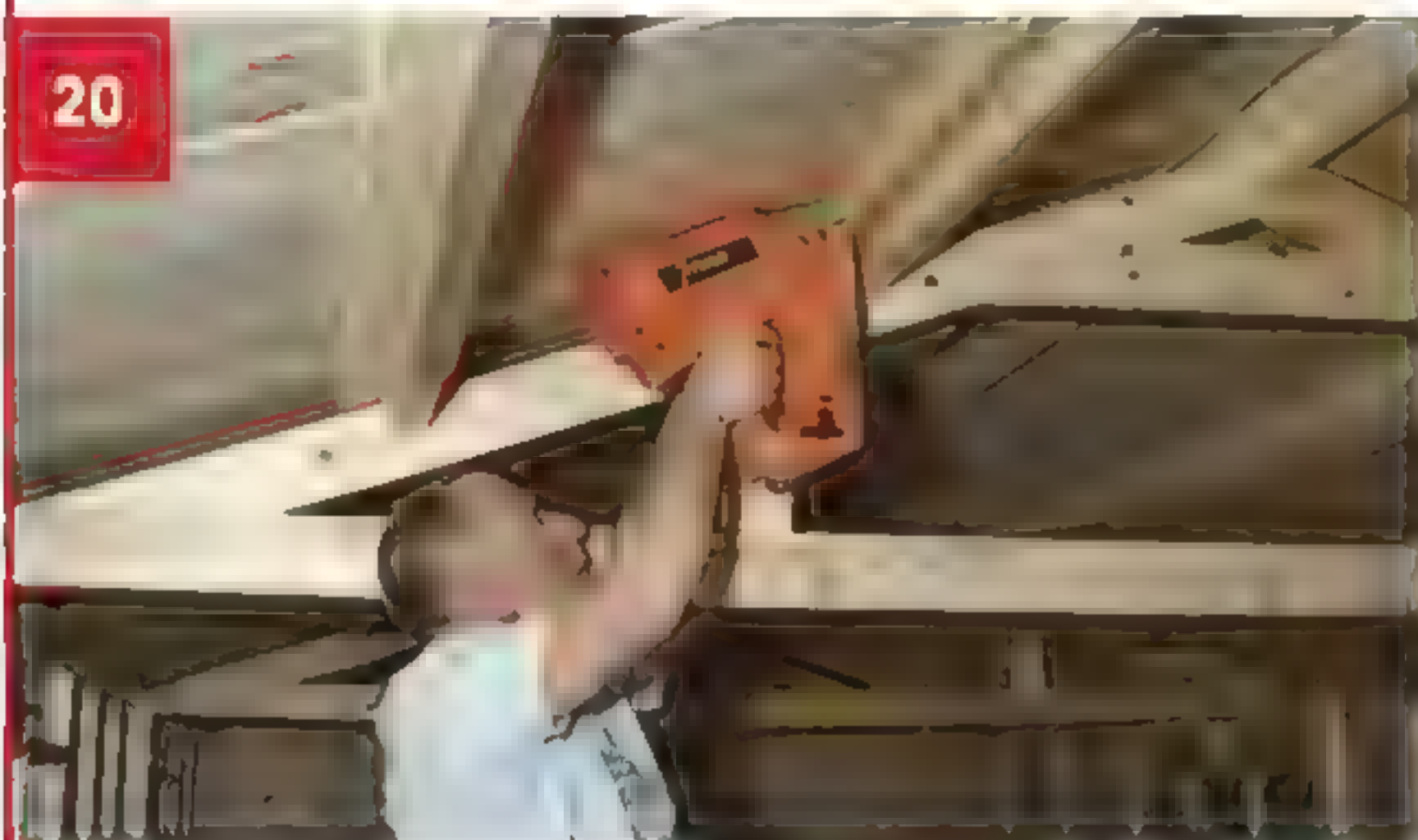
18

18 The last job was the fitting of the barge boards and the corner sections.



19

19 At every stage of this job, I employed professionals. The electricians were no exception. This is called the 'first fix', where the ring wiring is installed but not yet connected. No earrings, tattoos or fags here!



20

20 Next professional, doing the insulation and lining. Extra battens were needed for the lining material to be fixed to, put in place with a nail gun.



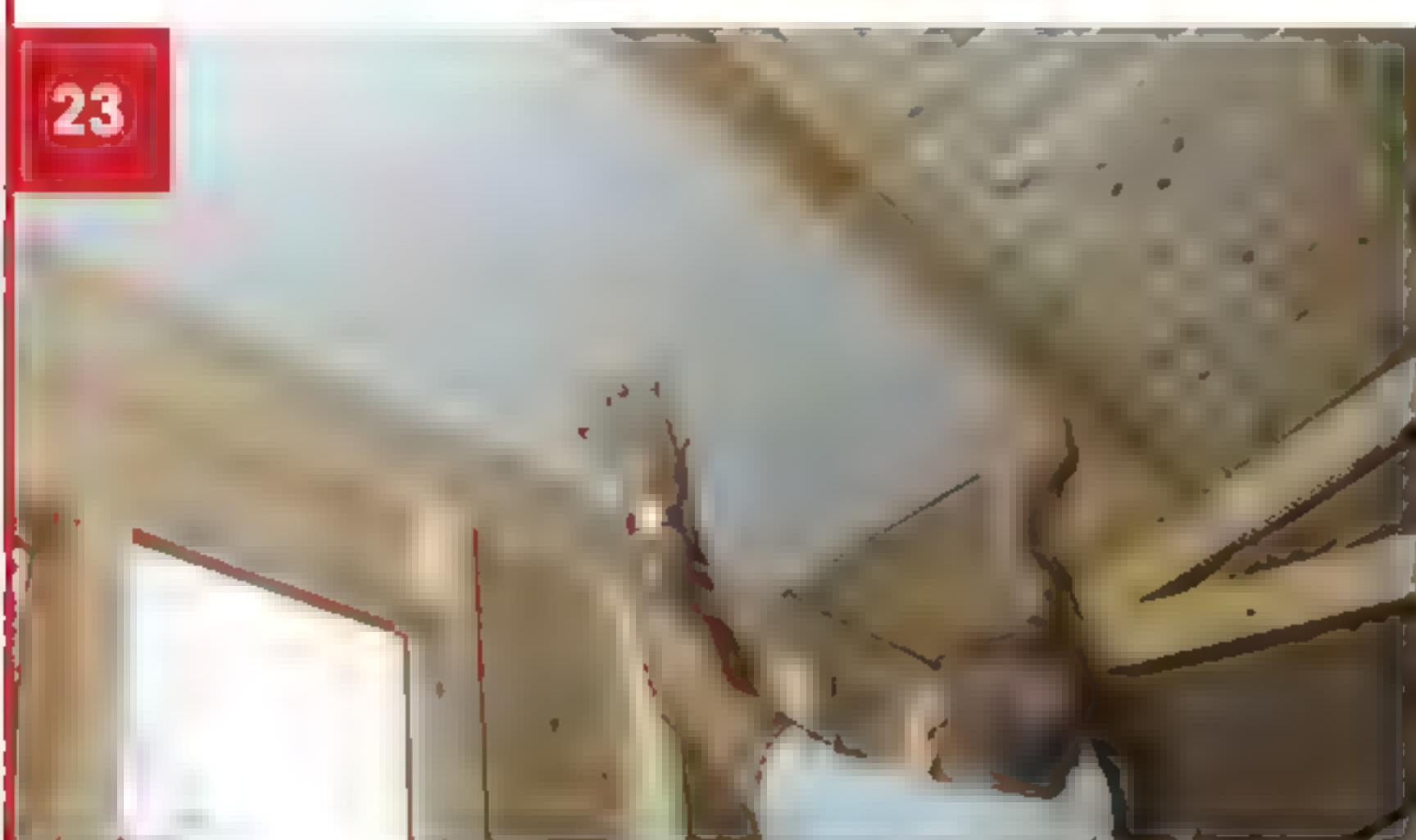
21

21 Decent power tools are a pre-requisite for success and all professionals will have them. Just tattoos and fags here.



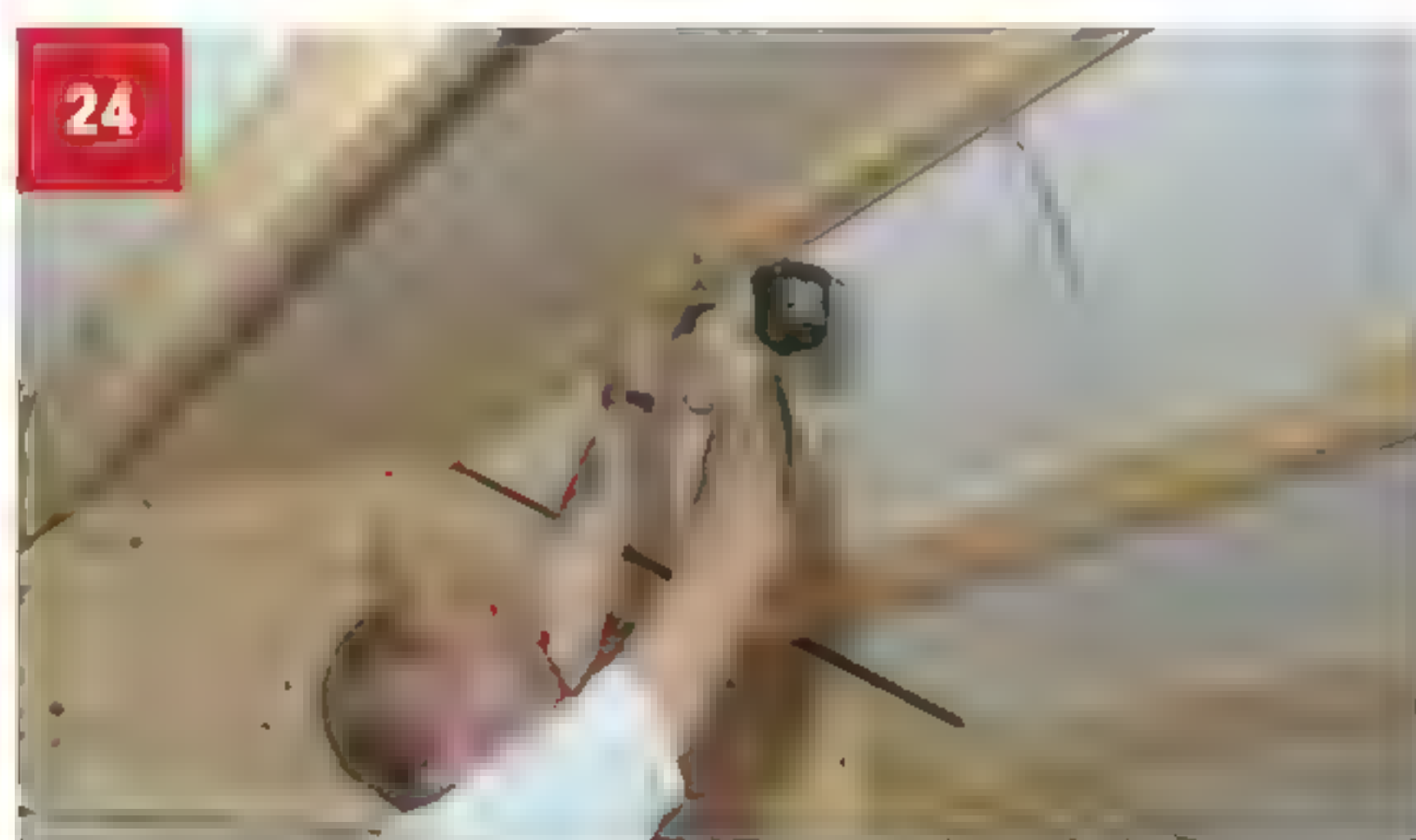
22

22 Insulation was 1" expanded polystyrene - not the very best (the real McCoy - metal foil outside with compressed insulation inside would have been over a grand). This is very easy to cut.



23

23 I acted as fetcher, carrier and helper for Pete, my joiner. Here he's putting the expanded polystyrene in place. Accurately cut, friction meant it stayed put.



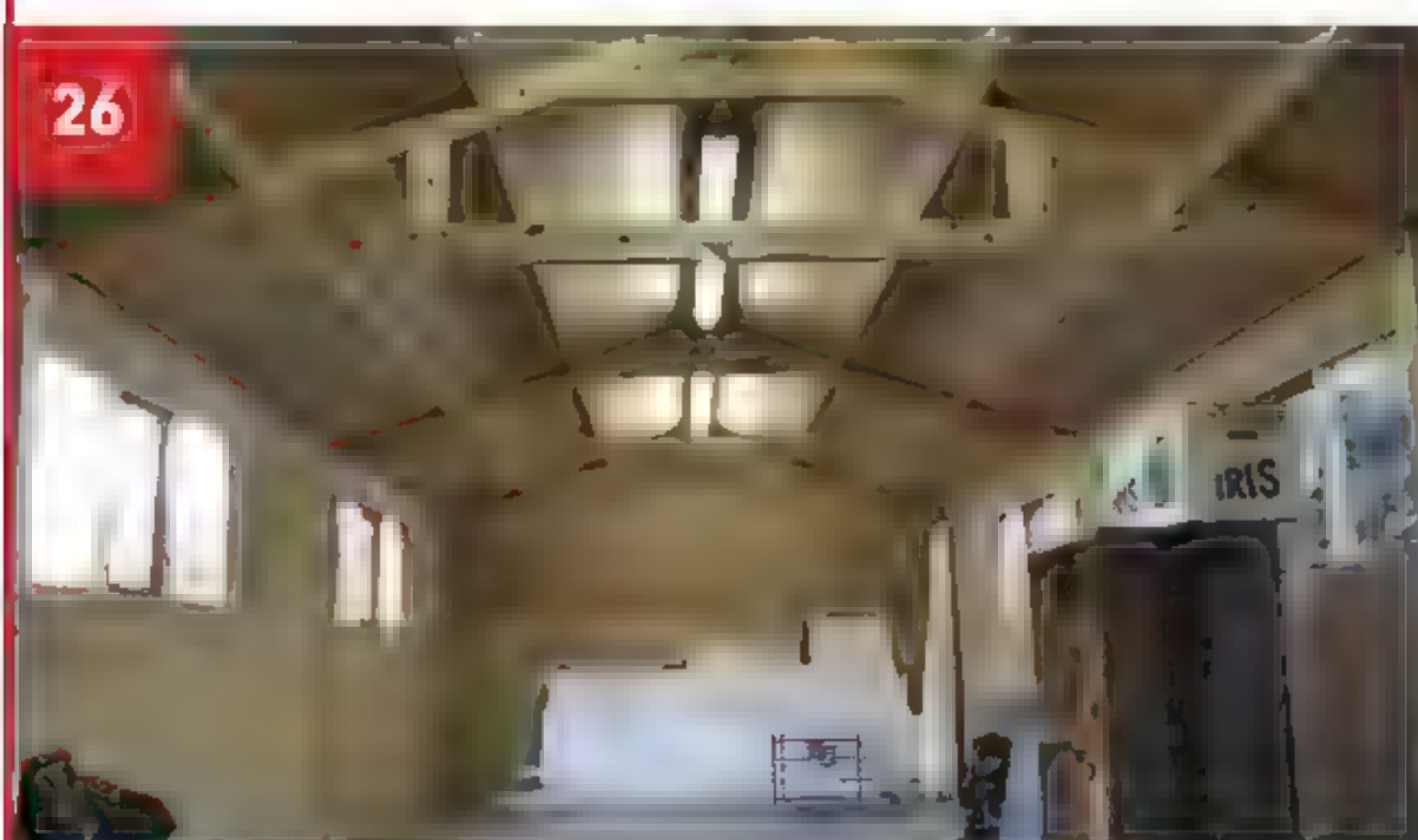
24

24 The lining was 6mm MDF - 45 sheets of 8' x 4'. This had to be accurately cut to fit and then held in place by screws - hence the need for the extra battens.



25

25 All the lining boards in place (hopefully not snagging the first fix electrical work) and the place is already getting a nice snug feel to it.



26

26 The electrical 'second fix', and lights and sockets are installed. Left-over material is stacked at the end (handy for the new layout) and part of another layout is stored. The last job will be to paint all the interior white.



27

27 A consumer unit like this is a 'must'. As well as separate 'rings', there's an earth trip for any problems. There's another trip for the shed at the house supply and the 'feed' is my armoured cable, part suspended.



28

28 Though I waited and waited, I couldn't get a shot of a 'shed' passing my shed. Did it come in on budget? Just, but a proper access path still has to be laid. Still, for (hopefully) ten year's future enjoyment - well worth it.

The LMS diesel twins

Harry Howell modifies the Silver Fox resin-bodied product to make 10000 and 10001. Last year he popped over to the NEC from Australia where we took the opportunity to photograph his pair of Ivatt pioneering diesels.



As is clearly evident, a fair bit of metal removal has taken place on the Bachmann Class 40 chassis in order to fit under 10000's resin-moulded body, though there's little risk as long as you take care not to get filings, etc, in the mechanism. The wiggly wire at the rear end is my coupling for joining the two units together. On the WCML they usually ran in tandem, reputedly 'equalling' a single 'Duchess'.

On page 57 of Cecil J Allen's old Ian Allan book, *Salute to the LMS*, there is an excellent photograph of 10000 and 10001 running through the Lune Gorge in 1947 heading the 'Royal Scot' in the blood and custard livery of the period. Not quite right for my Stafford, 1961 layout, but WCML nonetheless,

and to borrow a David Jenkinson term, I thought it would look fine as a 'funny train' on my layout.

Sourcing these two locomotives, I ordered two body-only kits from Silver Fox. These are superb resin mouldings but, upon opening the box, comparison with the Roche drawing revealed a

number of discrepancies.

Silver Fox market their kit to go with the Lima Class 47 OO chassis, and as such the white metal bogie sideframes turned out to be 12mm too short for the Ivatt diesels, but correct for the Lima bogie wheelbase. To compensate for this, Silver Fox have made the central



The pair together. Being built just after Nationalisation, 10001 never carried LMS branding. My stock uses Kadee couplings, and 10000, being the powered one, always leads.



Complete with 'Royal Scot' headboard, the pair is ready to go. Numerals and letters are etched in stainless steel and are available from Fox.

battery boxes too long, to fill that gap between the bogies. Coming to the roof, I sent off to Howes for a 10000 roof fan and grill, which turned out to be correct for my drawing, including the distinctive pattern of mesh. This showed the Silver Fox roof aperture to be too small, with very ordinary 'mosquito net' mesh, possibly copied from the inaccurate drawing in OPC's *BR Main Line Diesel Locomotives*.

From Howes I also ordered a pack of air horns to replace those moulded into the resin. For the chassis, I found a Class 40 bogie almost spot on for axle

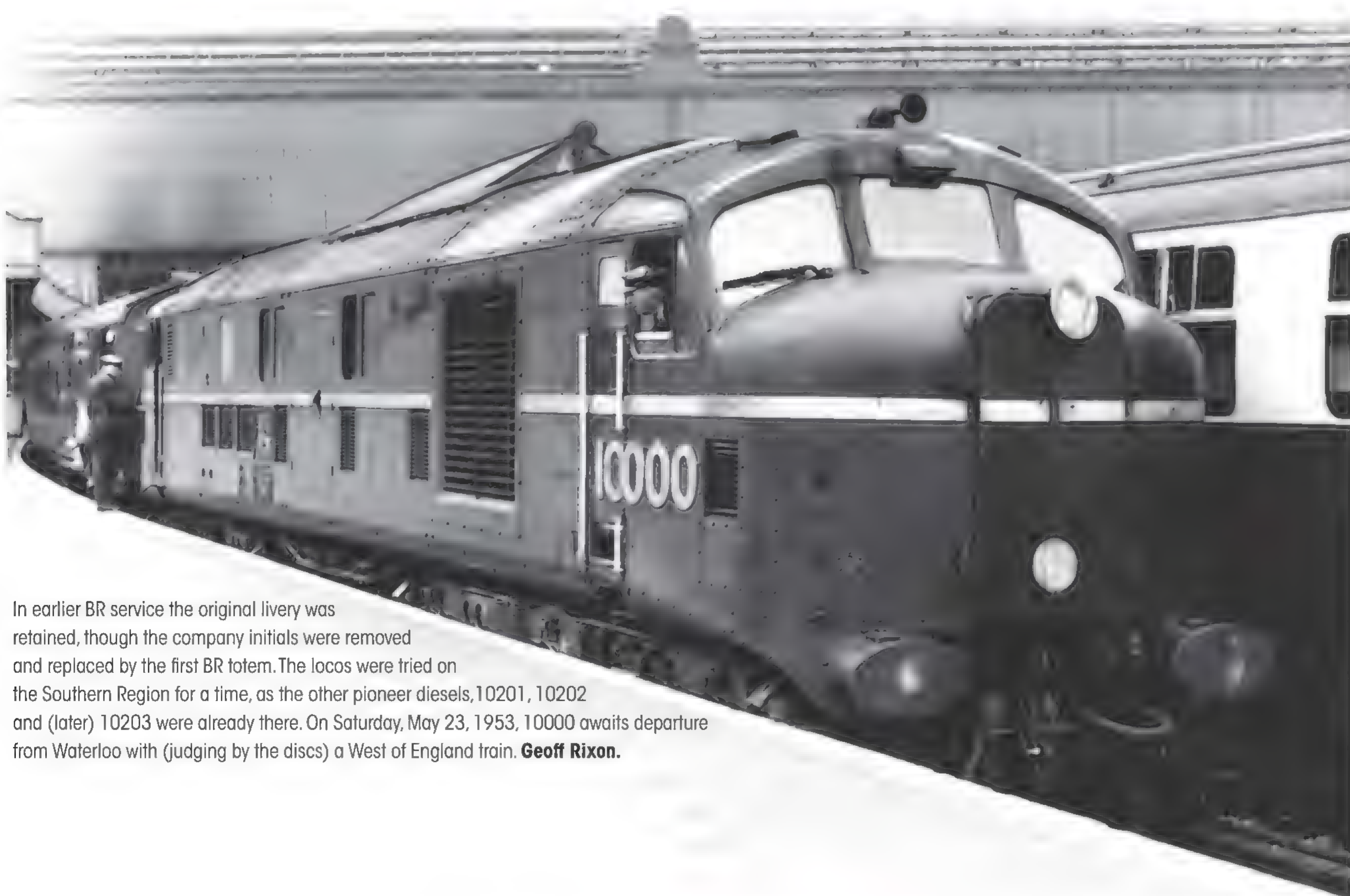
and bogie spacing - after discarding the carrying axle at each end. Knowing the Lima chassis to be old technology anyway, I opted for the Bachmann Class 40 to do the job.

Starting with the Bachmann bogie sides, I used a Dremel no. 115 bit in their vertical stand to grind away all the outside spring detail, and to trim the frame ends and depth to suit - a new experience in itself, and quite tedious, rubbing and filing to get as good a finish as I could.

A 2.5mm strip of card formed the capping on each bogie, and the

springs were represented by 1/4" 10BA cheesehead bolts, filed down and glued in pairs 4.5mm apart.

From milling to spray painting - my first venture with a newly-acquired compressor. The bodies were sprayed silver then masked appropriately for the next coat of gloss black. The windows were the usual flush-glazing fiddle, using what was provided, then I noticed Silver Fox had not cut out the five side windows in the body. These were just shallow indentations, and I didn't relish the prospect of cutting 20 apertures. A friend suggested leaving them alone



In earlier BR service the original livery was retained, though the company initials were removed and replaced by the first BR totem. The locos were tried on the Southern Region for a time, as the other pioneer diesels, 10201, 10202 and (later) 10203 were already there. On Saturday, May 23, 1953, 10000 awaits departure from Waterloo with (judging by the discs) a West of England train. **Geoff Rixon.**

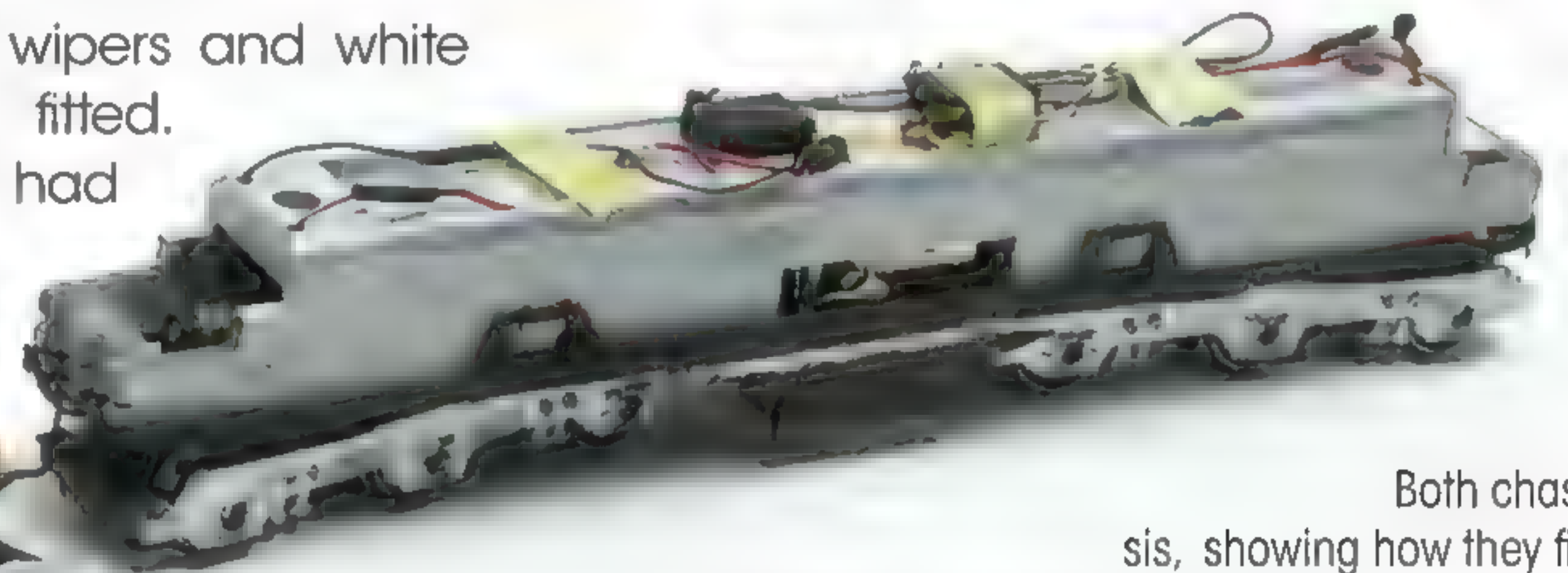


For those who can live with the too-short bogies, Silver Fox supply their model in RTR form, in any of its livery guises. Here's 10000, late in its life in BR lined green. Tom Wright did the detailing and weathering. Though the 'shorty' bogies are disappointing, the overall effect is really quite convincing. The side-windows are just painted matt black.

and fitting thin (shirtbox top) glazing into the recesses, as one would not be able to see straight through the locos, anyway.

To fit the chassis to the body called for some heavy hacksawing off each end of the Bachmann metal block, reducing it to a length of 225mm. Lastly, I read somewhere that if one is not operating DCC, the circuit board is best removed and bypassed for

the roofs, windscreen wipers and white dot express markers fitted. Best of all, though, he had stripped the dummy 10001



Both chassis, showing how they fix together. There's plenty of space in the dummy one to take the Modeltronics sound unit.

chassis and installed an American Modeltronics sound unit, which gives the most impressive diesel growl!

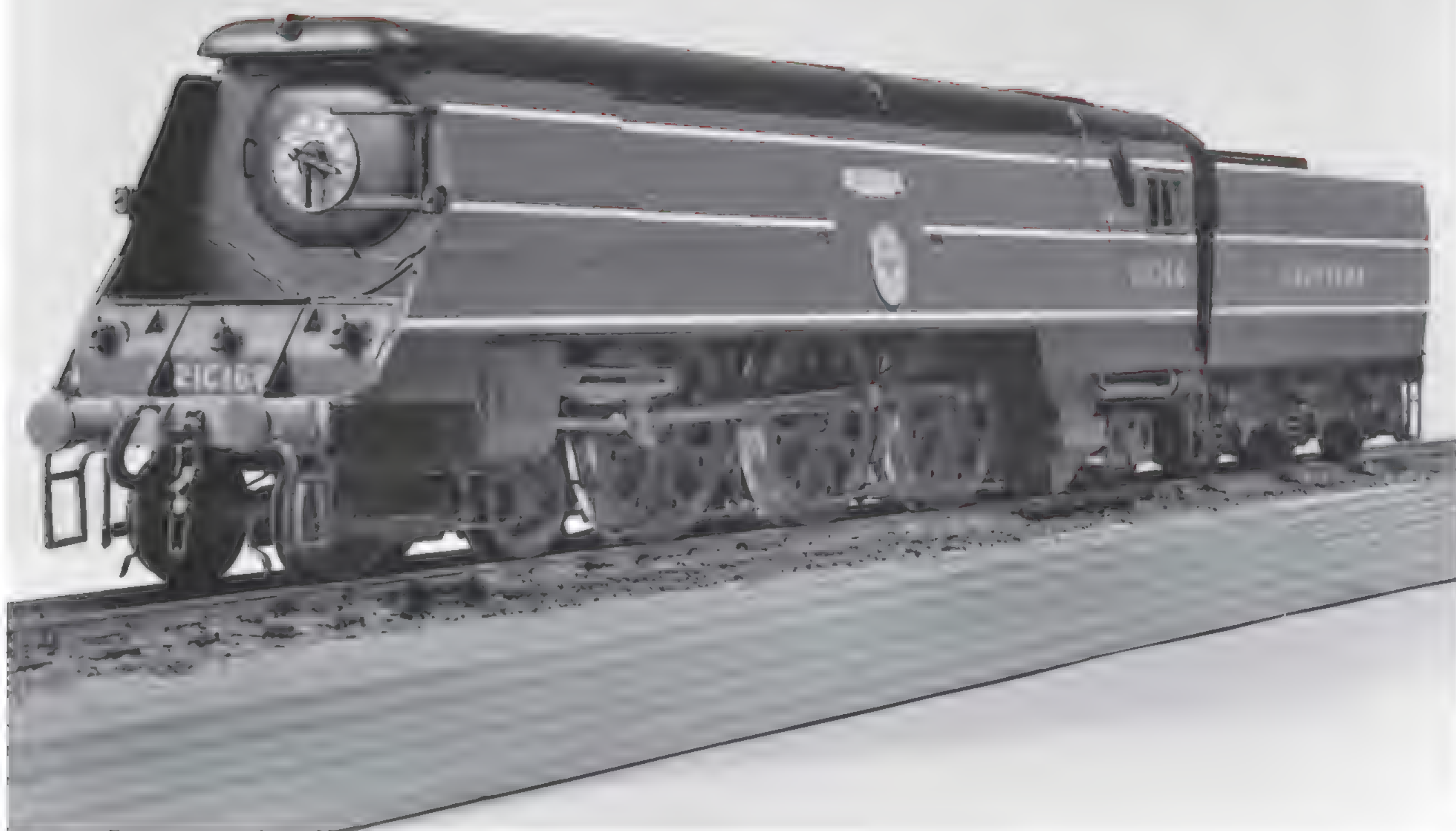
All in all, a wonderfully enjoyable exercise and, as ever, many thanks to a supervisory eye from Bill Cooper and David Lord, and other friends from among the 500-strong British Railway Modellers of Australia.

smoothest running. The finished model performs excellently in best Bachmann style.

For 10001, I took the almost identical bogies from an old Mainline Class 45 for the same treatment, and then fitted them to a scratch-built chassis for it to run as a dummy permanently in tandem with its sister. They were both ready to go when my friend, Bill Cooper, carted the pair off into the night to be returned a couple of days later with a fine dusting of exhaust along

Back on the LMR, and in plain green with small yellow panel, 10001 is at Willesden carriage shed in 1963. It retains its cast numerals. Geoff Rixon





Crownline 'Battle of Britain', 21C166 Spitfire in original condition. Look at the tender side's shape, quite correct for this model, though this is what misled me on making the 'MN's' tender mentioned earlier. Despite the excellence of the kit at source, extra detail is worth putting on, especially where it's clearly seen - those front lighting conduits for instance.

A trio of Bulleids

Tony Wright, after taking time to build the 'MN' featured earlier, takes a look at a further three models of 'Spam Cans'.

On pages 28-37 of this *Annual*, you'll have seen a blow-by-blow account of how I built the PDK 4mm unrebuilt 'Merchant Navy' kit. I mentioned in that earlier piece, the Crownline original 'MN' I'd built some time ago for *Modelling Railways Illustrated*. Well, it's featured on the next page by way of a comparison. It's different in that it represents a second series example, the originals of which were clad in steel, with no curve-in at the front. It's also one of the few original 'MNs' to tow a cut-down tender (35001 and 35012 were others), making the model very interesting. As usual, Ian Rathbone produced the superb paint finish on *General Steam Navigation*.

I also mentioned the construction of a

Crownline 'light Pacific', in this case one of the 'Battle of Britain' Class, 21C166 *Spitfire* (pictured above). The shape of this loco's tender, in part led me to disregard the PDK instructions, resulting in cock-up, one, as described earlier in this volume. When will I ever learn?

The Bulleid malachite green and 'Sunny South' lettering and lining make an interesting comparison with the more sedate 35001. However, it's what the customer ordered and 'he who pays the piper' as they say.

The high quality finish on this model is once more down to Ian Rathbone.

Working full time on *BRM* means I no longer have the time to build locomotives professionally (both my two-mentioned Bulleids were commissions), though I do

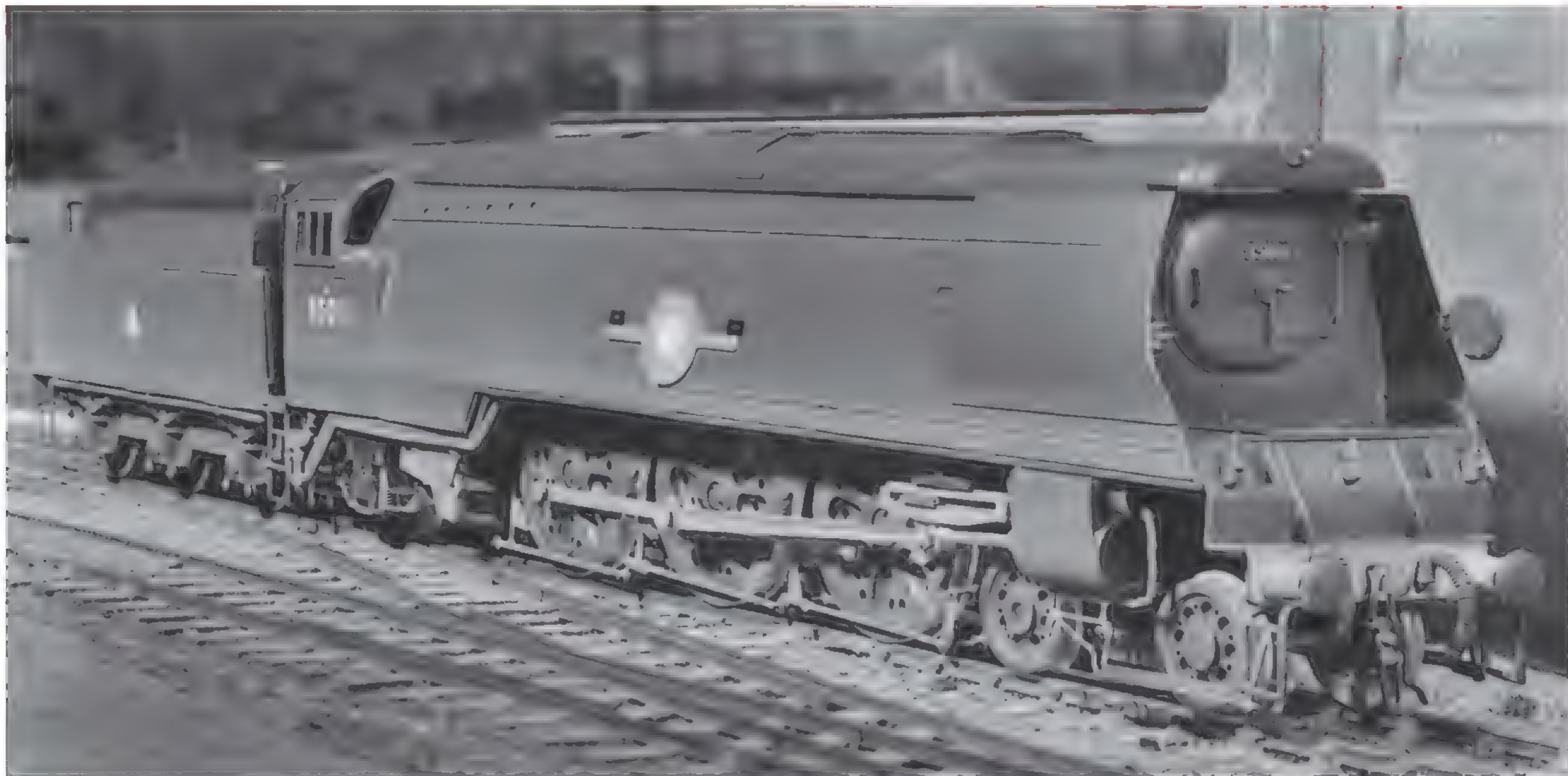
build kits for review purposes. Good luck often meant I could turn a commission into an article, too - 35011's construction being a case in point.

I honestly have lost track of just how many locomotives I've made. It's well over 400 - at least I know that!

The third Bulleid in this little feature is a bit bigger than the other two - it's 7mm scale rather than 4mm. It's also been built by someone else, Richard Lambert - a well known *BRM* contributor. His 'West Country' was built from an Oakville kit some time ago now.

Richard doesn't need the services of a professional painter - he's good enough, as the pictures clearly show.

All three models make most interesting subjects. I hope you like them.



A close inspection between the 'MN' featured on pages 28-37 and this one will reveal no 'limpet' board, no curve-in at the front ahead of the cylinders and a cut-down tender. 35011 also has plain-section coupling rods. After these pictures were taken, a shedplate was added and the cab windows glazed.



Whatever might be said about these locos, they were certainly impressive in appearance. My model, though, is inaccurate in that the platework's representation is far too neat and flat. Where are the ripples, cockles and seam splits? However, if I'd replicated them, my customer would not have been very happy!



Richard Lambert's peerless workmanship is evident on his 7mm Oakville 'West Country'. The model represents the loco later in its life, with cut-down tender, large, later, BR emblem (compare this with the 'MN' opposite) and AWS battery box prominent on the front platform. Richard's painting, too, stands comparison with the very best.

As an aside, all three of these 'Spam Cans' were photographed a few years ago now, with my Mamiya medium format, 6 x 9 'brick'. Despite obvious advances made in digital photography, don't you think these images are really sharp?



Forty years of Thornbury Hill

The story of this long-lived OO gauge exhibition layout featuring SR third-rail running is told by **Bob Duffy**.

Photography by **Ray Lightfoot**.



A diminutive P Class tank crosses the main line on its way to the yard.

Thornbury Hill was the brainchild of the Burgess Hill Model Railway Club. The planning was long and tortuous but the trackplan that evolved has stood the test of time and has proved its original concept, 'to give entertainment' not only to the paying public at exhibitions, but also to the operators.

The layout was sold to the present owners in 1989, who also took over the booked exhibitions. Well, the last bit proved to be a near disaster for the new owners only had a few items of stock, most of which did not suit the period in which the layout was set (1932). So, cap in hand, we asked the Burgess Hill club if we could borrow some stock and also some operators.

As a group we decided to move the layout period forward to 1960-1962 as this would allow us to run EMUs, DMUs and diesel in addition to steam outline.

We were lucky for the first few months of ownership to be able to use the First Burgess Hill Scout HQ and erect the whole of the layout. This gave us the necessary space to gain access from all sides of the layout in order to add the 'third-rail'. The BR Southern Region manual was used to ensure that proper practice was followed, particularly in the area of crossovers. Many evenings were spent in laying the third-rail ensuring that it was prototypical and to the correct height above the running rails. Boy oh boy, did that cause us some trouble! The dummy collecting shoes on EMUs and low hanging brake gear on some locos rode up on the third-rail lifting one side of the stock, thereby destroying current pick-up. It looked as if the stock had been built by kangaroos. All the third-rail was then lowered to the same height as the running rail by applying gentle heat to the plastic insulators that held the rail to height. Lesson learnt (lowering the third-rail also has the added bonus of making track cleaning easier). At exhibitions we have been asked if we are picking up current from the third-rail, we would love to answer 'yes' just to see the expression on the questioners face - 'Gee, they must be clever'.

Initially we borrowed stock from Paul Hopkins who seems to have an endless supply of EMUs. We still use some of Paul's stock, a favourite being the 4-DD (four-car Double Deck). Yes, it is being run out of area, the layout is London suburbs on the Brighton line, but it is an unusual item and we are always amazed at exhibitions at just how many people declare that they have ridden in the full size one.

Clubs, groups or individuals when constructing a layout have a list of 'needs'. With Thornbury Hill this was all done so we turned our attention to the stock that we



Looking north from Tunnel Hill.

hoped to run. The criteria that we set was that all stock would be BR(SR) except for the excursions that used to come from more northern climes. The locos would all have a crew, vac pipes, screw couplings and real coal. (At one exhibition an operator said: 'I must go to Fred's Bits and Pieces'. 'Why's that', he was asked? 'To buy a packet of real coal' he replied. How naïve! So we gave him a piece of real coal, the size of a brick.) Coaches would all have passengers, we seem to have painted hundreds, and over the course of a couple of years all coaches have a regular complement of what must be season ticket holders. We do find that some ready-to-run coaches are difficult to get apart to

the point where it was suggested that a builder's 2lb hammer might be of help. You always get the really helpful one! A good representation of corridor connections are fitted instead of the plastic lumps at the end of RTR coaches.

For space reasons Thornbury Hill is stored, packed ready for transport, making it difficult to test run newly-built stock. Before exhibitions we do erect the layout in parts for testing and repair, this is the only chance to test run a new item over some of the crossovers. Unfortunately the law that applies to other modellers also applies to us - you know it don't you? It will run all right the night before but you can bet your dirty cotton socks it will derail on the

A much altered Tri-ang L1 heads a military train onto the main line, past the Thornbury Tavern.



day, several times! And just when you think the stock is up to scratch - well it never is 100% as you always notice a missing door handle or a chassis that needs replacing. There is some kit-building of electric locos, of the early SR type, currently in progress in order to give more variation to the trains that we run.

Over the years the layout has travelled further north than Watford into the land

where 'third-rail' is unknown, especially to the very young. It has been known for a young voice to say: 'Look Dad, that train has no engine' when an EMU appears. It's remarks like that that make it worthwhile travelling up north to show the general public the way that the railways of the south operated - (we are not contemplating moving forward from the 1960s as we have not yet perfected

scale 'leaves on the line' nor the 'wrong kind of snow'). Despite being a layout set in third-rail country we do operate a high proportion of steam locos. Like it or not, a fast moving steam-hauled train draws more attention than a fast moving EMU.

We fitted the layout with a new curtain, which we stored in a plastic bin liner. At exhibitions you are issued with a black bin liner to put any rubbish in - wait for it,



The branch passenger train leaves the station while the station pilot waits in the bay platform.



'I must finish painting this door before I go home'.

you're jumping ahead of me. Returning from one exhibition the main parts of the layout had been stored when Bruce called out for the bits: 'backscenes, control panel, curtains – CURTAINS'. 'Anyone seen the curtains?' Yes, what you thought would happen had, but fortunately there is always an upside to a downside and in this case it was that the new curtains are fireproofed, and we have the certificate to prove it.

Whilst at the York exhibition the layout suffered overnight from a leak in the kitchen above us, no fault of the organisers – just an unfortunate accident. The water did not drip on a building but onto the track. The damaged baseboard was quickly removed and heat applied to prevent further absorption by the chipboard. The heat was applied using hairdryers and as most of the operators are beyond their 'bird pulling years' it was pointed out to the onlooking public that the overnight bags had been packed by 'the wives'.

Work on the layout itself has consisted of gentle refurbishment, the grass has had its greenness refreshed, some areas of brickpaper have been replaced and the trees are back in leaf.

Over a period of time some of the low-relief buildings have been replaced. The pub on the corner is in need of a coat of paint – the owners are Fred and Mable who have been the licensees since Fred was wounded at Dunkirk and declared unfit for further military service. Next year is their 25th wedding anniversary. They have had three quotes for the external repainting but as yet they are undecided.

A factory has replaced the brewery and the barbers has replaced the blacksmiths, as both of these were destroyed in one of the many air raids that tried to cut the railway in World War II. Similarly, a block of flats has replaced some of the terraced

houses that were damaged in a surprise raid of 1944. We carried out some research and discovered that the barber is the son of the one time blacksmith who now works as the part-time cleaner/caretaker in the block of flats. It's a small world.

Hats

In the 1930s everyone wore a hat so the people of Thornbury Hill, as bought, were 'hatted'. By the 1960s hardly anyone wore a hat so the population had to become 'hatless'. We have been able to achieve this where the figures were in open spaces, and thereby readily accessible, whilst hoping that those under the station canopy would not be too noticeable.

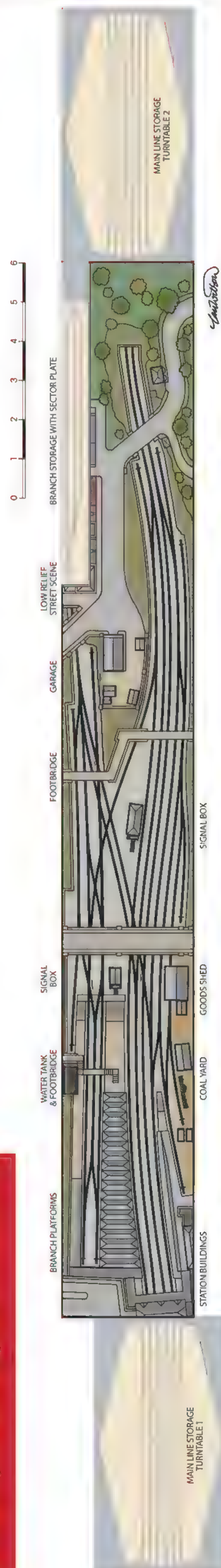
So in 2006 with Thornbury Hill 40 years old, what of the future? Brian reckons that us owners will pack up first – he is probably right as you can refurbish an old layout but you can't refurbish old fellas.

The original builders and ourselves have been grateful for the compliments given to the layout on the many times it has been voted 'best layout in show' – this includes 'Best 4mm Layout' at Warley a couple of years back. As a group we reckon that it's not the exact scale, the lovely models or the constant movement of trains, but the overall character of the layout and that glimpse of South London as it used to be that we – and exhibition audiences – find enjoyable.

Thornbury Hill is owned by Bruce McIntosh ('The Boss'), Bob Duffy ('Old fella'), Brian Peacock ('Captain Peaky') and Bob Simpson ('Simpo'). Together we heartily thank the people who help us operate the layout and their willingness to travel to all points of Great Britain.

■ See *Thornbury Hill at The Festival of British Railway Modelling at Harrogate in February 2007.*

Thornbury Hill Track plan





Good use is made of the old tram lines to transfer coal to the Gas Works. The lines were finally lifted in 1964.



A Class 33 heads south with a van train.



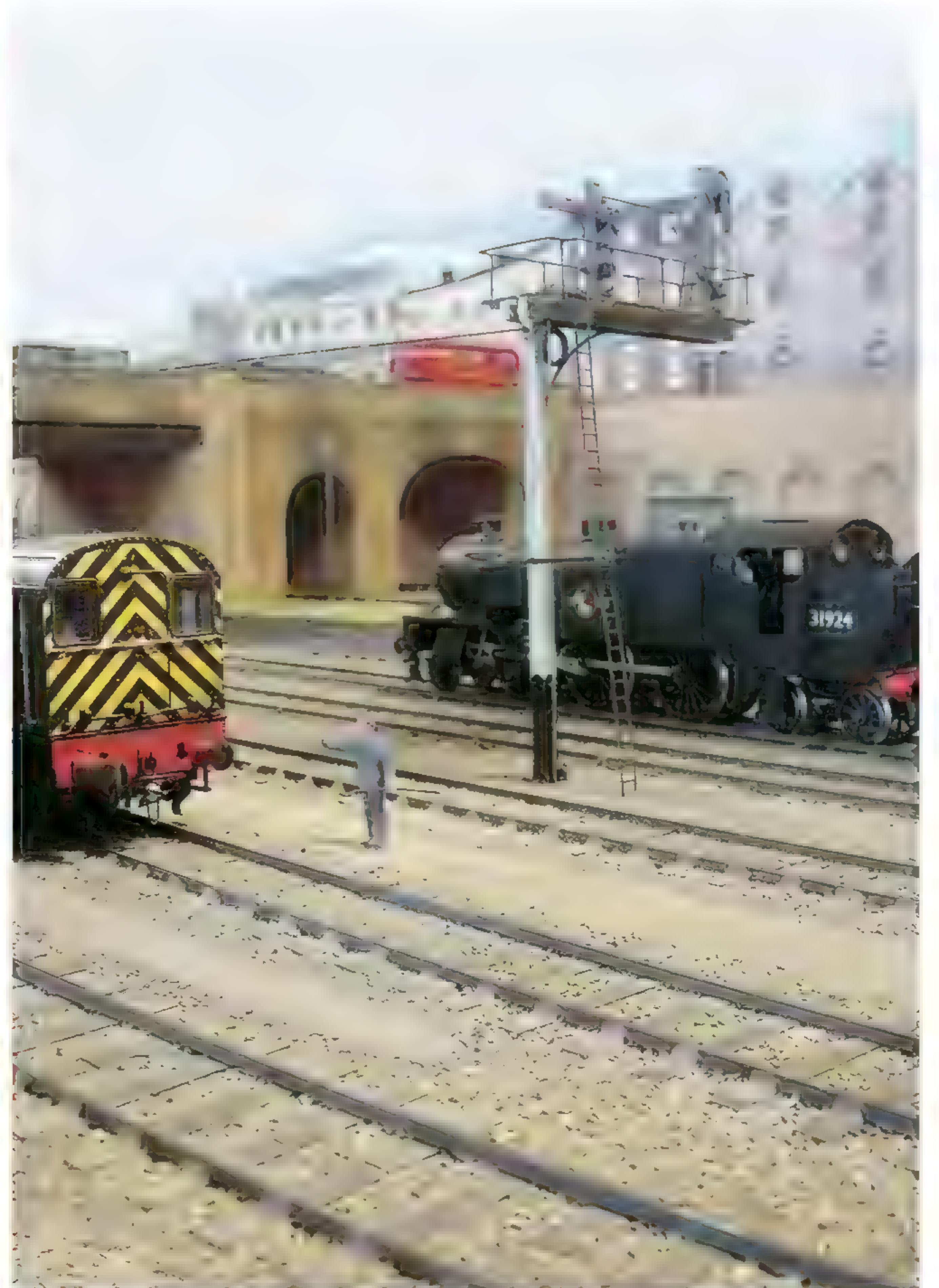
A rather clean W Class 2-6-4T heads north with a mixed freight.



One of Bulleid's Q1 0-6-0s heads a mixed freight bound for the branch.



A mechanical horse and trailer passes the flats.



Being on shunting duty was a skilled but dangerous job.



'Battle of Britain' Class Light Pacific No.34055 *Fighter Pilot* heads for the coast past a Standard Class 4.



Access to the main line from the branch with Thornbury Hill station in the distance. A train of military vehicles is held over in the long siding.



As the owner of the sports car leaves the bank he receives a salute from the AA patrolman - those were the days!

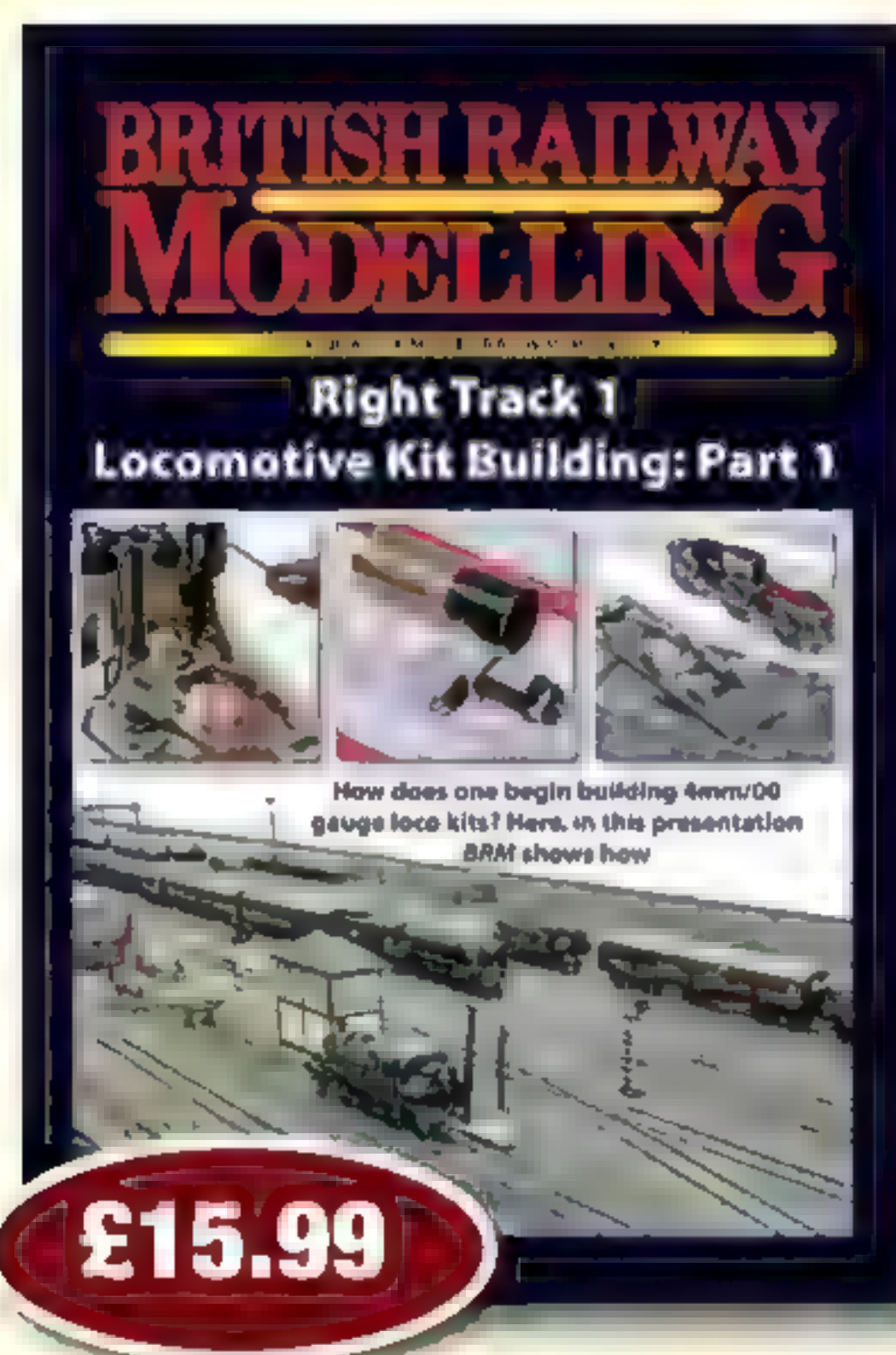
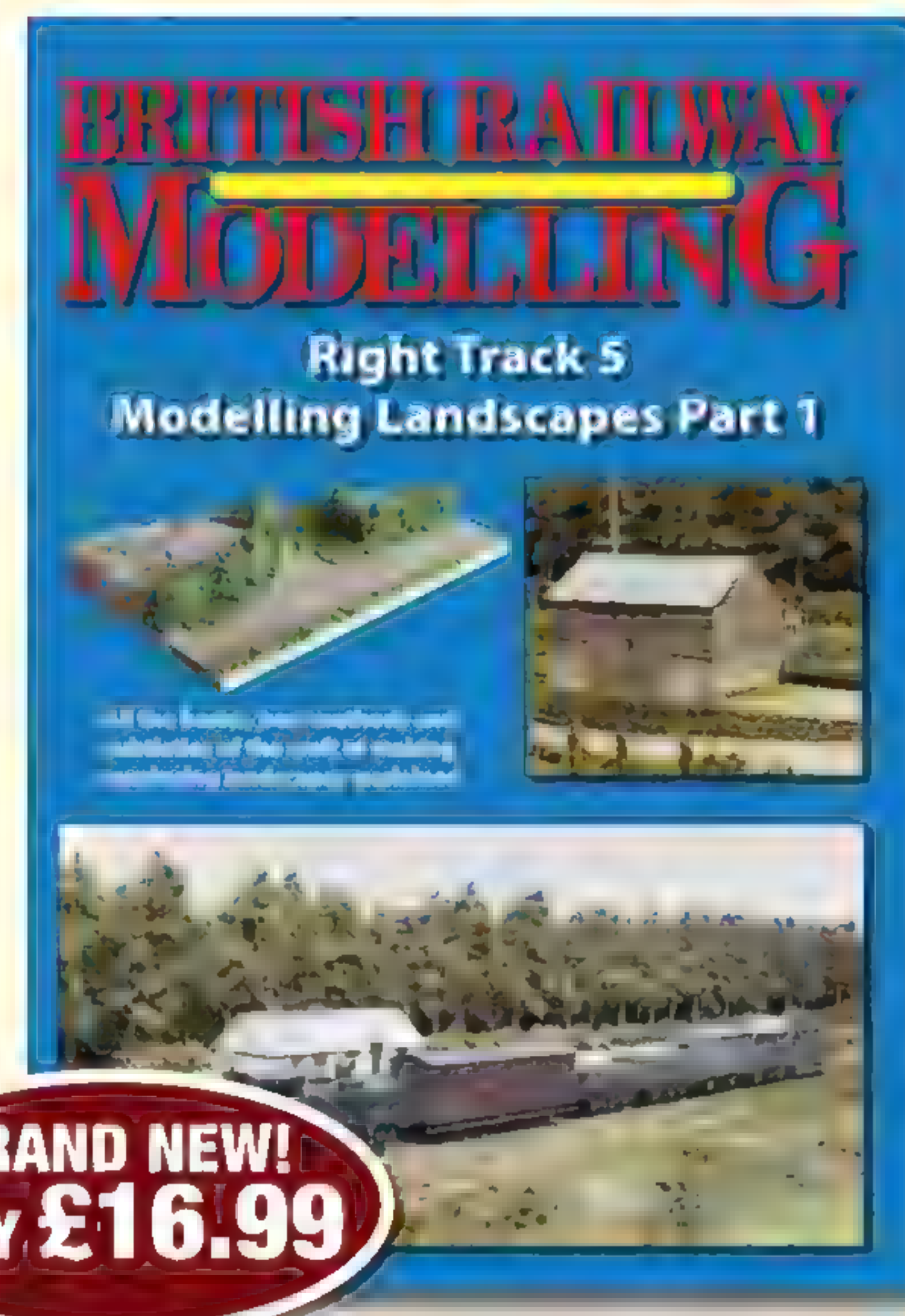


The 'Brighton Belle' passes through the station at 60mph.

Fantastic Reader

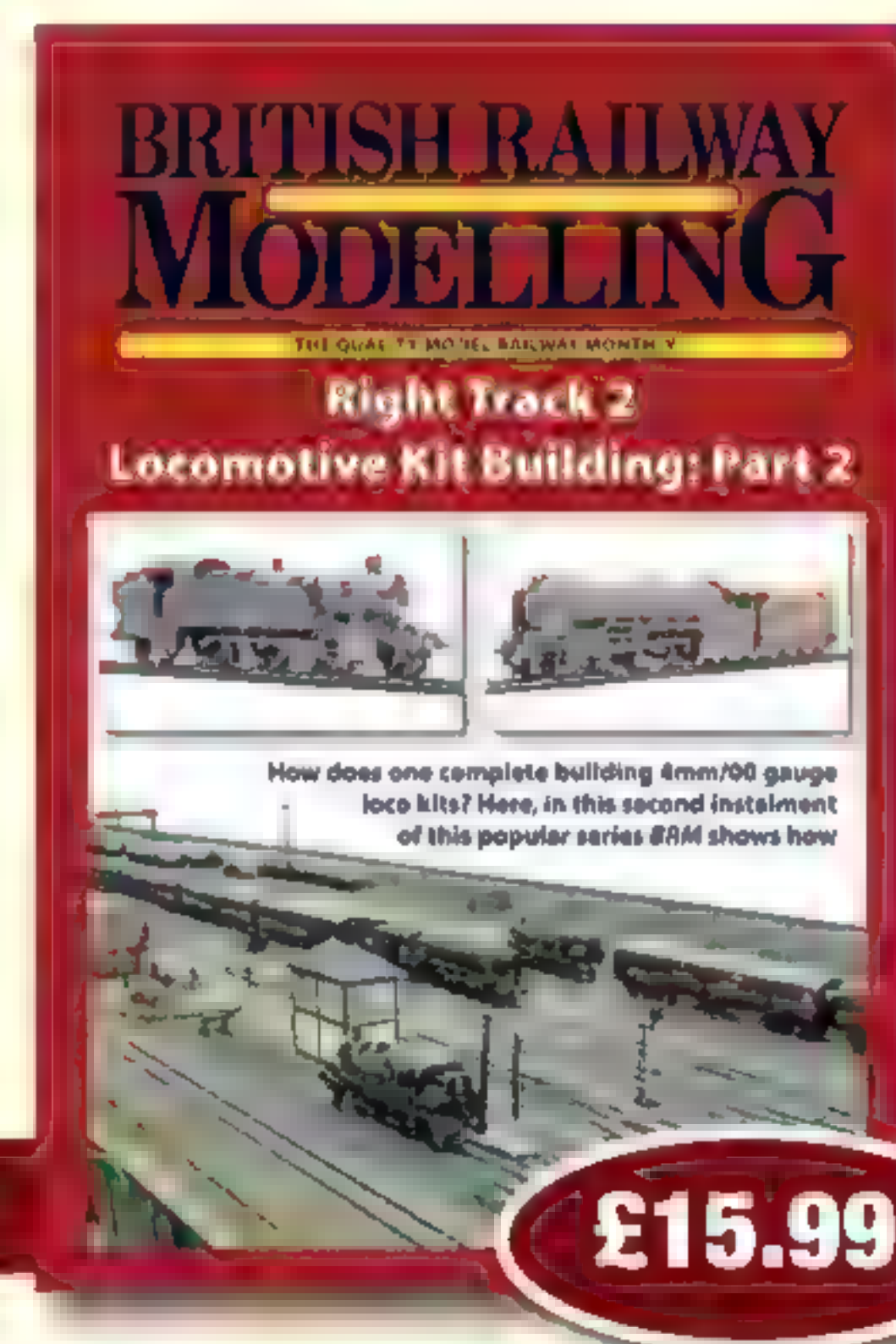
Right Track Part 5 – Modelling Landscapes Part 1

Following on from the previous 4 successful releases, British Railway Modelling brings to you Right Track Part 5 – Modelling Landscapes Part 1. Introduced by Tony Wright, Modelling Landscapes 1 is presented by Barry Norman, one of the most respected modellers in the world. Here he presents, in an easy to follow, friendly style, the methods and techniques involved in layout design, baseboard construction, laying track, ballasting track, making landforms, laying grass and landscaping. All in all this is an essential dvd whether you're just starting out on building a layout, wishing to take your scenic modelling a step further or are already experienced in landscaping.

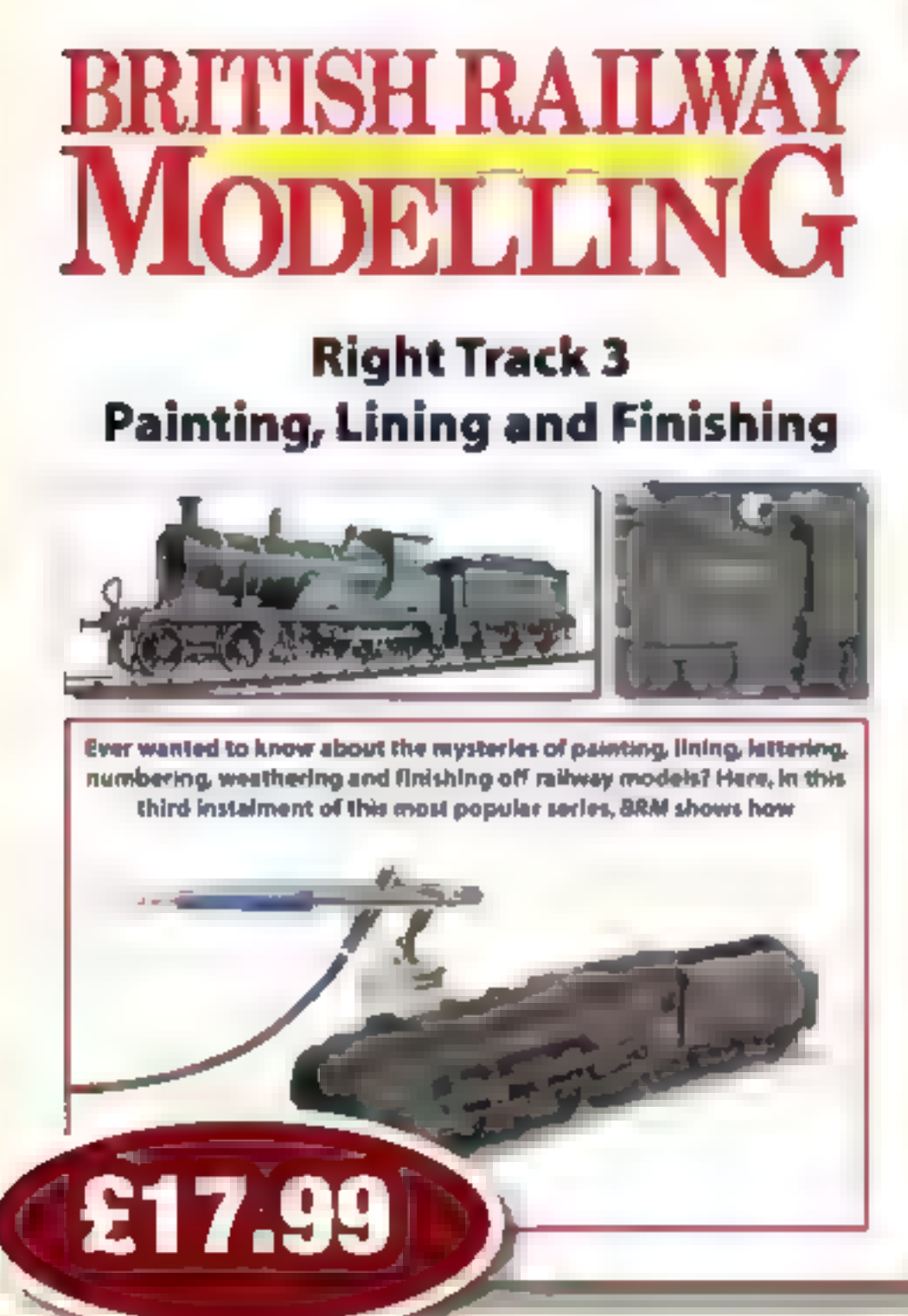


The first in the series, illustrating constructional aspects of the hobby features 3 locomotives - a 4F from Alan Gibson, a GWR 61xx 2-6-2T from South Eastern Finecast and an A2 Pacific from DJH. Aspects covered during the two-hours include: chassis making, quartering wheels, arranging pick-ups, making and securing coupling rods, installing motors, fitting ponies and bogies, initial body and tender construction and first steps in detailing.

Following on from part 1, the three locomotives are taken right through to completion, prior to painting in this three-hour presentation. Part 2 focuses on: building and detailing the smoke box/boiler/firebox, fixing and drilling chimneys, detailing the cab, forming smoke deflectors and handrails, outside motion, cylinders and valve gear assembly, test running and fine adjustments.

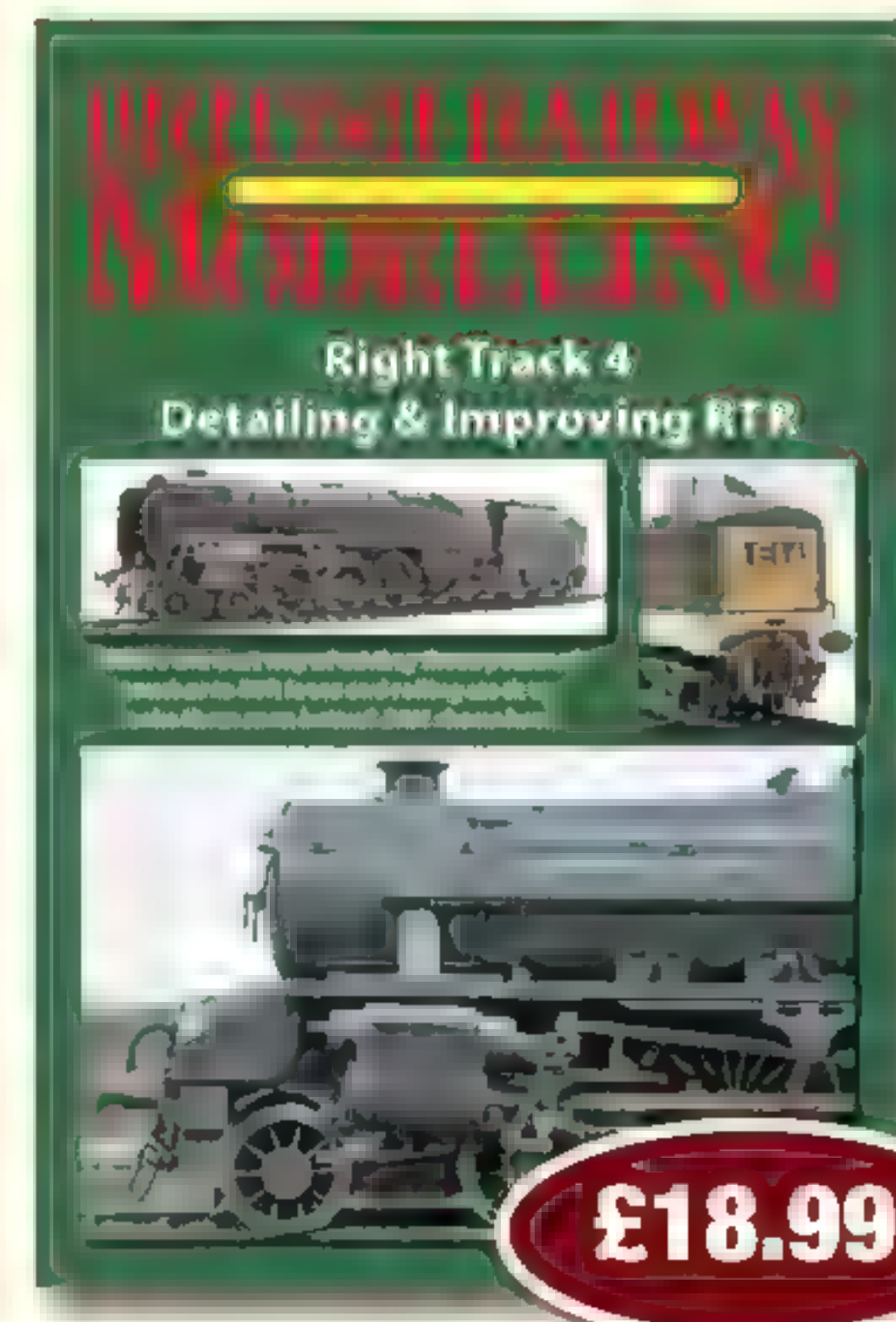


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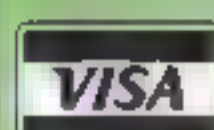
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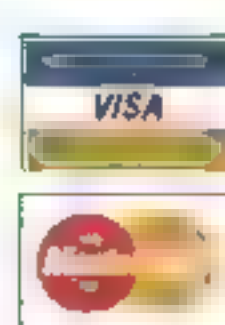
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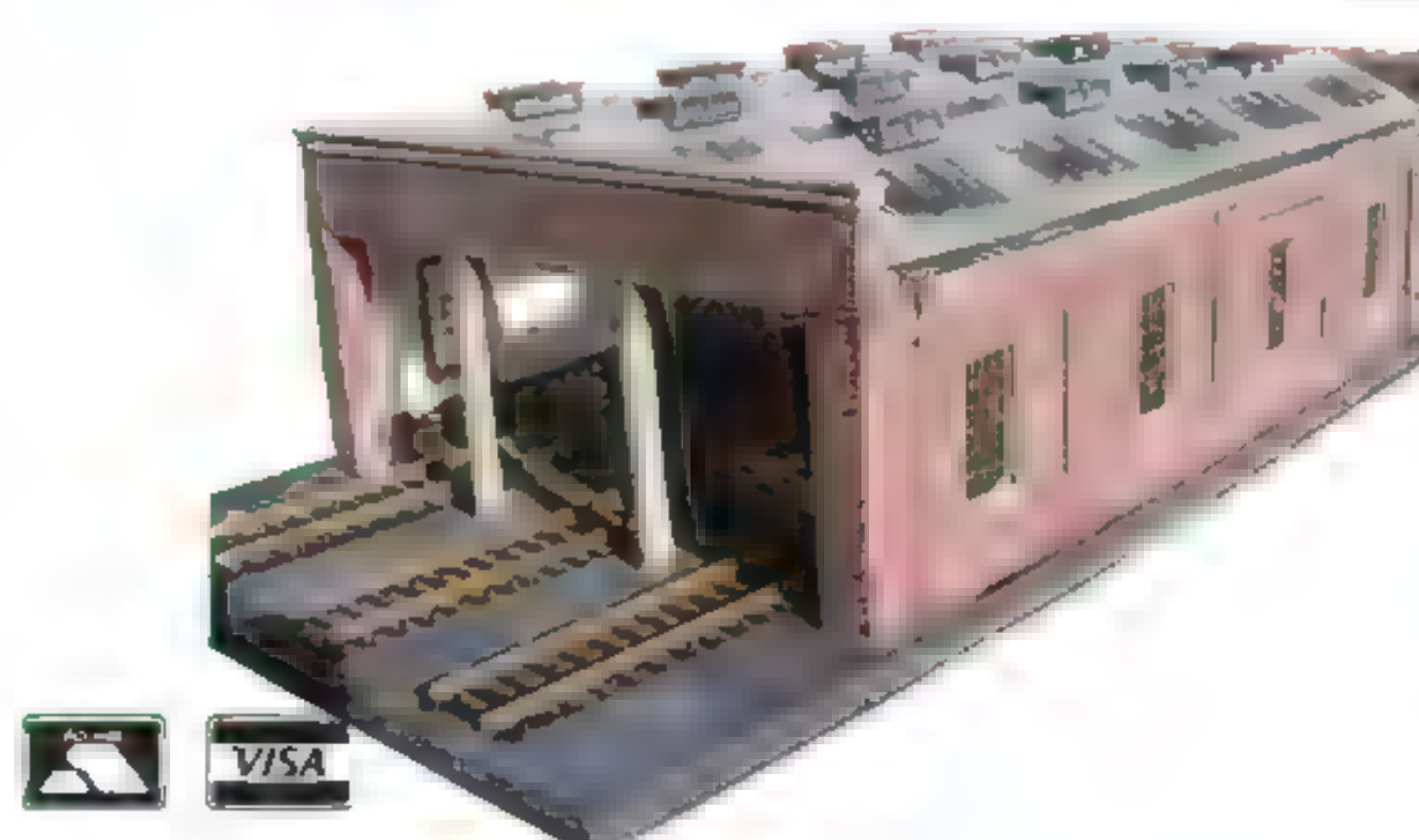
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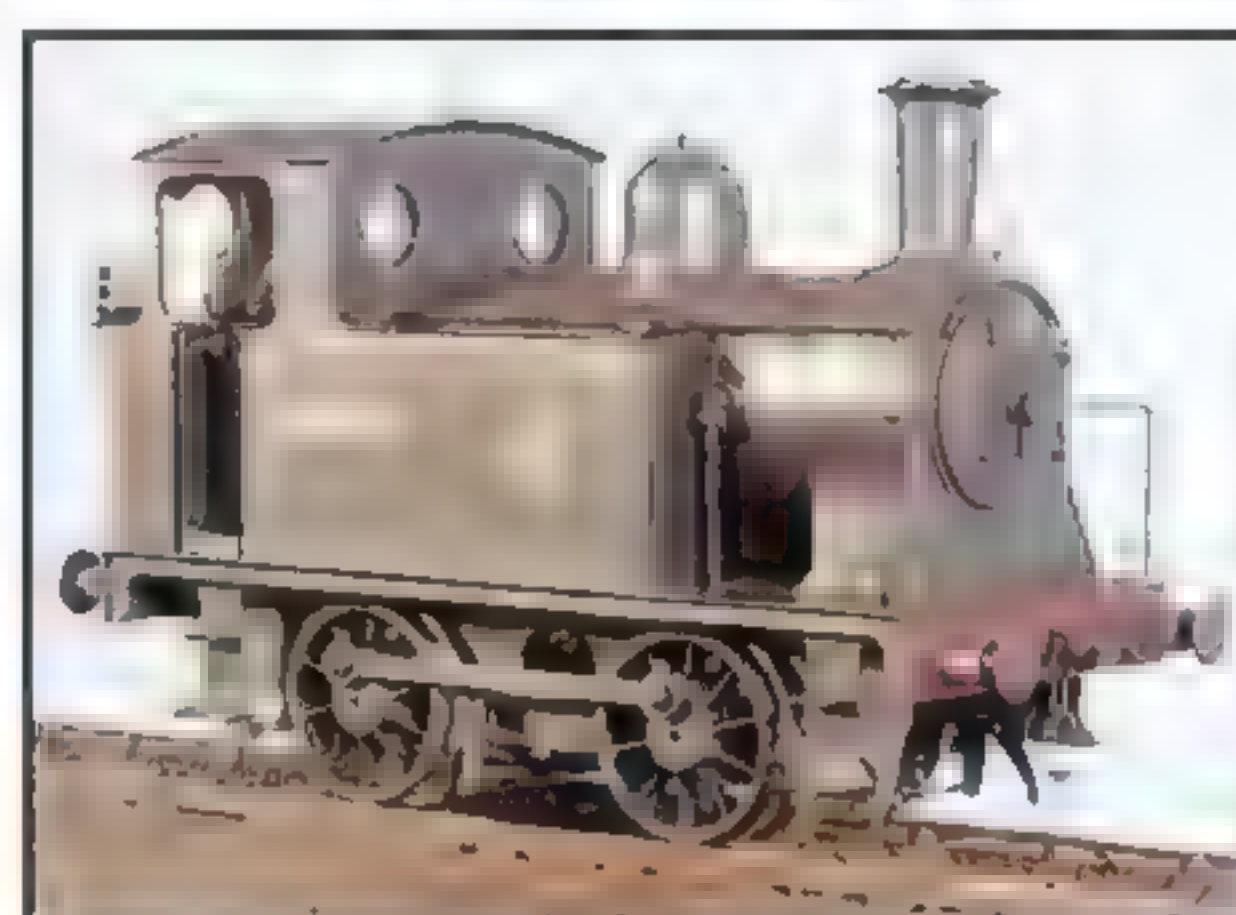
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**BRITISH RAILWAY
MODELLING**

MRM
Modern Railway Modelling

TRACTION

OPENING

Sat 10am - 5.30pm Sun 10am - 5pm

Doors open 9:45am for pre-booked ticket holders

HOW TO GET THERE

Travel by rail to Alexandra Palace Station or by underground to Wood Green and then direct to venue by **FREE** shuttle bus.

FREE parking available on-site. Disabled access

**Book on-line @ www.brmodelling.com
or call the ticket hotline: 01778 392089 (Mon-Fri, 8am-6pm)**

THE LONDON FESTIVAL OF RAILWAY MODELLING BOOKING FORM 2007

Title _____ Forename _____ Surname _____

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PRE-BOOKING CLOSES 5pm THURS 15 MARCH 2007
ALL ADMISSION LETTERS (TICKETS) WILL BE DISTRIBUTED AFTER 1ST MARCH 2007.
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ONE DAY ADMISSION Letters are valid for use on **EITHER SATURDAY OR SUNDAY**
All under 16' must be accompanied by an adult

_____ Adult @ **£8** _____ Senior (60+) @ **£6.50**
_____ Child (5-16 yrs) @ **£3.50** _____ Family (2+3) @ **£23**

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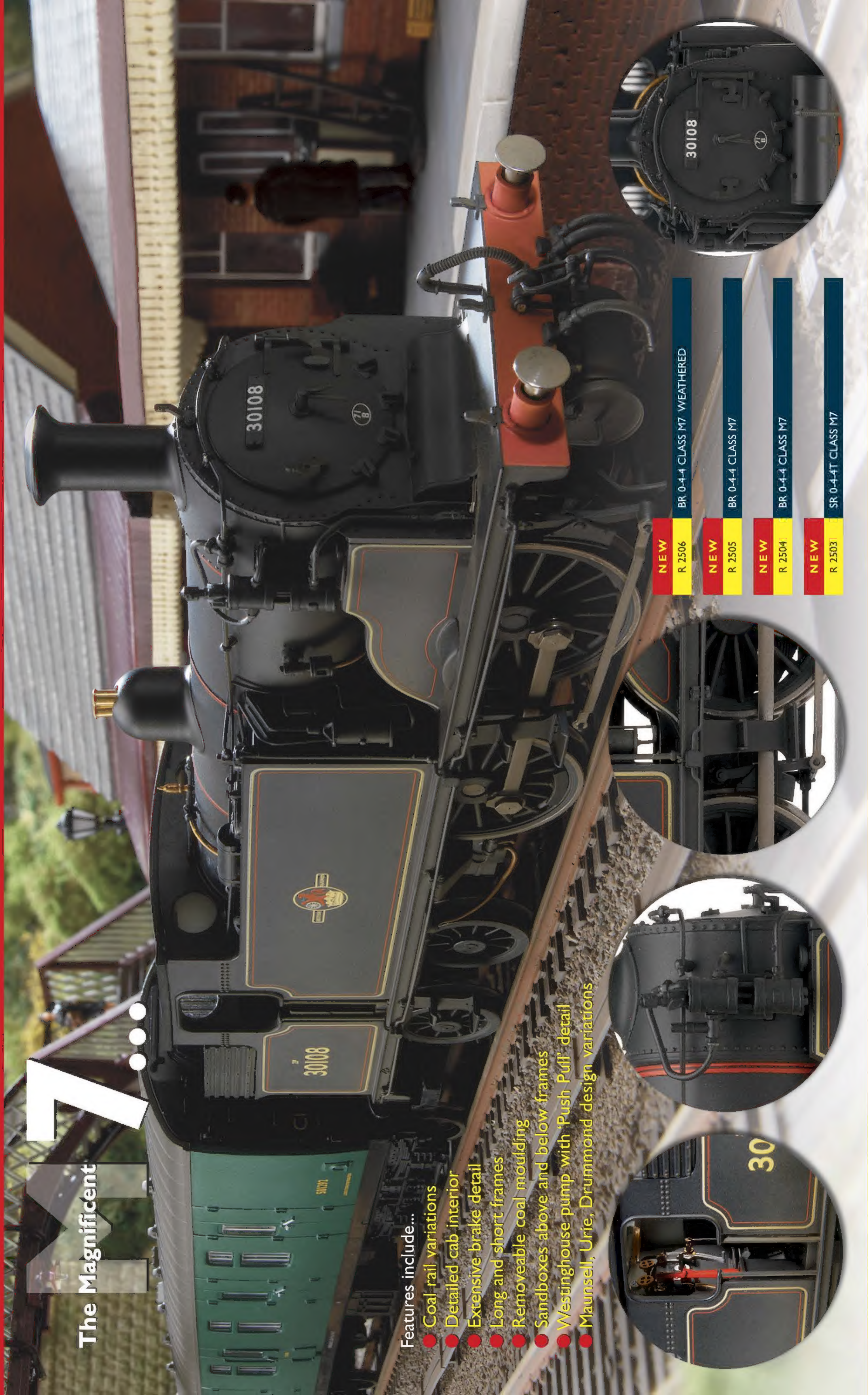
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